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# COAL

## Amendment to

# WYOMING Land Use Decisions

# WESTERN POWDER RIVER BASIN AREA

Casper District

U.S. Department of the Interior Bureau of Land Management

I 53.23:

## Introduction

This brochure summarizes recommendations for the Western Powder River Basin Management Framework Plan (MFP) Amendment.

The Western Powder River Basin MFP, completed in 1979, is a multiple-use plan covering resource programs conducted by Bureau of Land Management (BLM) in Johnson and Sheridan counties. At the time MFP decisions were being made, the Department of the Interior was reviewing its coal leasing policy. As a result, the district did not have sufficient guidance to address the coal development potential.

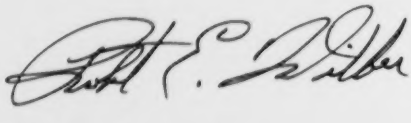
Since completion of the MFP, the Secretary of the Interior adopted new policies and procedures for coal leasing. This amendment is necessary to reflect the new federal coal management program.

Since this brochure is a summary, some of the detailed supportive data including legal land descriptions have not been included. The illustrations included are reproductions and should not be used for detailed site-specific analyses or interpretations. Detailed information is available for public review at the Casper District Office of the Bureau of Land Management, 951 Rancho Road, Casper, Wyoming 82601.

The amendment to the Western Powder River MFP is being prepared under the BLM's new planning regulations contained in 43 CFR 1601.6-3(b). The basic field work including resource inventories, analyses, and coordination was performed by the Casper District Office and the recommendations were reviewed by the Wyoming State Director and have his concurrence.

Final decisions will be made after public review and comment. Please send your comments to the Casper District Office by May 22, 1981. If you have any questions, contact Don Whyde at this office (307-265-5550, ext. 5101).

Many organizations and individuals have assisted us in the preparation of this amendment. That assistance has been invaluable. We appreciate it and pledge to seek full public participation as we move forward with the federal coal management program.



Robert E. Wilber
District Manager
Casper District

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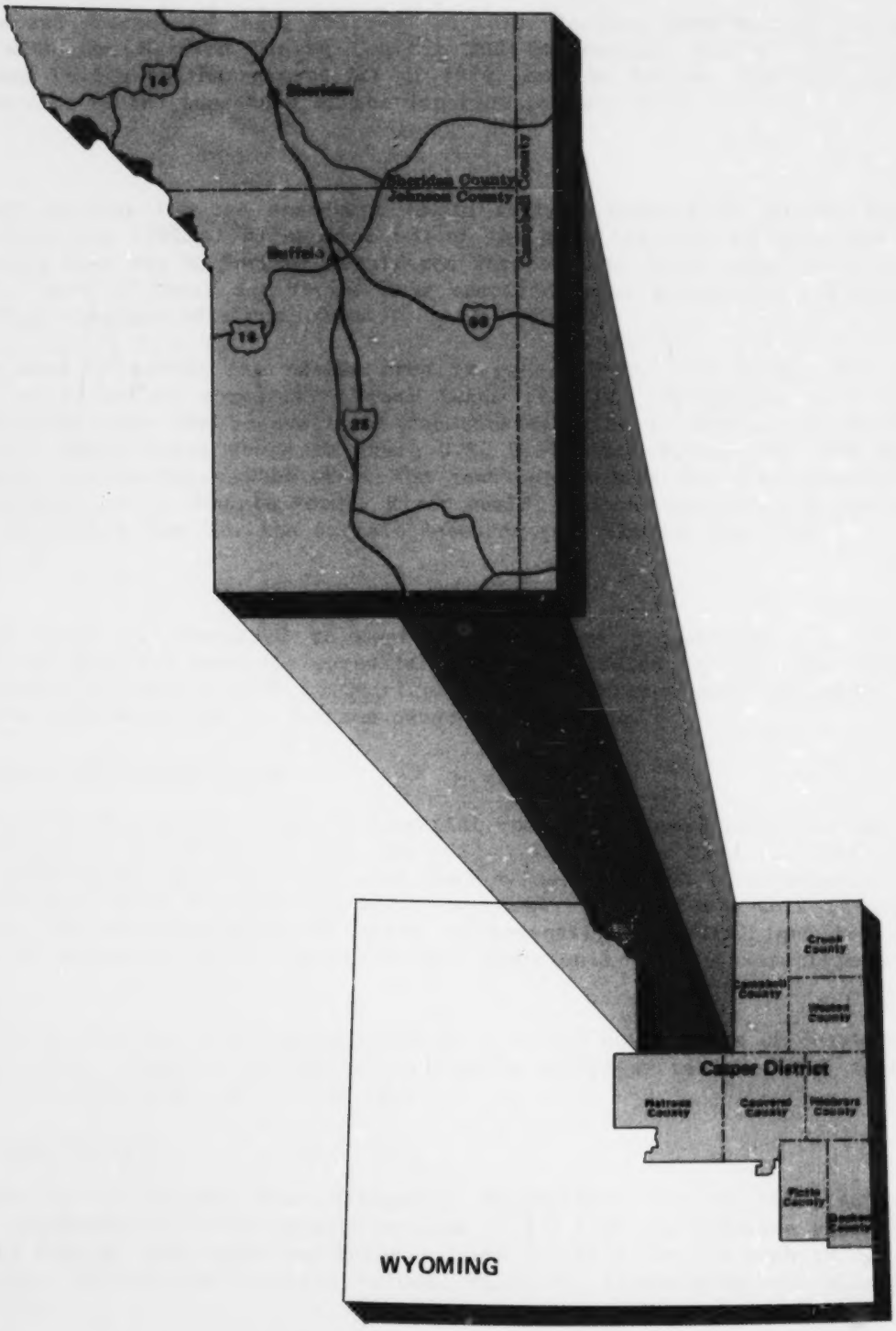



General Location Map
Western Powder Review Area

READEX FICHE

## PURPOSE AND PROCEDURES

Objectives and procedures being followed in this planning amendment are in accordance with the Surface Mining Control and Reclamation Act of 1977, the Federal Land Policy and Management Act of 1976, and the Federal Coal Management Program adopted by the Secretary of the Interior in June 1979.

### Purpose

The primary purpose for the amendment is to further process Preference Right Lease Applications (PRLAs) by application of the unsuitability criteria and to provide areas that can be further considered for possible lease exchange or modification. Each of these activities have specific requirements for collecting and analyzing site-specific coal data.

Coal data used to define the review area is generally not sufficient for delineation of potential competitive coal lease tracts. Therefore, only relatively limited areas may be available for consideration in the scheduled 1984 lease sale. Those areas would be where U.S. Geological Survey (GS) has sufficient coal information. Otherwise, the next opportunity for new competitive lease consideration in Western Powder River would be upon completion of the new Resource Management Plan for the Buffalo Resource Area planned for 1986.

### Procedure

Four major steps are required to meet the amendment objectives: 1. identification of high and moderate potential coal on unleased federal coal lands; 2. application of unsuitability criteria; 3. identification and resolution of multiple-use conflicts; and 4. surface owner consultation.

### Identification of Potential Coal

The BLM identified high and moderate potential coal on unleased federal lands or mineral estates in coordination with the (GS). Information used included coal resource occurrences maps, previous coal company surveys, and interpretation of recent geological data from various other sources. GS considers this information to be "reconnaissance" level which is generally not sufficient for delineation of potential lease tracts without additional new site-specific coal data.

High potential coal has a stripping ratio of 0 to 4.5 cubic yards of overburden per ton of coal. Moderate potential coal has a stripping ratio of 4.5 to 6.5 cubic yards of overburden per ton of coal.

### Unsuitability Criteria

As required by the Federal Coal Management Regulations (43 CFR 3400, subpart 3461), 20 unsuitability criteria were applied to all high and moderate potential uncommitted federal coal lands and PRLAs. These criteria involve such things as scenic areas, natural and historic values, wildlife, floodplains and alluvial valley floors.

The purpose of this step is to identify areas with key features, or environmental problems that would make them unsuitable for surface coal mining and, therefore, unsuitable for coal leasing.

Multiple Use Conflicts

The next step involves reviewing those lands, other than PRLA lands, that passed the unsuitability criteria step, in light of the 1979 MFP decisions. Since the MFP did not address coal, the purpose is to identify and resolve any conflicts between coal development and other resource management decisions.

Surface Owner Consultation

Within areas found acceptable for further consideration for coal leasing, the last step is consulting surface owners of record to determine preference for or against mining of federal coal under their private surface.

If a significant number of qualified surface owners express preference against mining, an area can be eliminated from further consideration for leasing. However, surface owner consultation provisions do not apply to PRLAs.

## WESTERN POWDER RIVER REVIEW AREA

The Western Powder River Review Area lies within the Powder River coal region. The review area includes Johnson and Sheridan counties and PRLAs in Campbell County which have not been included in previous amendments.

The review area was established to include: 1. coal having high and moderate potential for development; and 2. preference right lease applications.

The north, south and west boundaries of the review area correspond with the boundaries of Sheridan and Johnson counties. The eastern boundary of the review area generally follows the western boundary of Campbell County.

However, small portions of Campbell County are included in the review area where high and moderate coal deposit boundaries cross into the county and where lands contain PRLAs (see Map 1).

## FINDINGS AND RECOMMENDATIONS

A summary of findings and recommendations are shown in Map 2 series and in Table 1. A more detailed description of each step in the amendment process follows the summary table.

Table 1.

SUMMARY-COAL AFFECTED BY FINDINGS AND RECOMMENDATIONS

| | | | PRLAs | |
|---|---|---|---|---|
| | Acres | Tons | Acres | Tons |
| High and Moderate Coal | 464,894 | 16,612,209,900 | N/A | N/A |
| Non-federal and Committed federal | -195,453 | -7,635,416,400 | N/A | N/A |
| Available for Application of Unsuitability Criteria | 269,441 | 8,976,793,500 | 53,335 | 307,662,600 |
| Unsuitable | - 3,571 | - 128,672,000 | 0 | 0 |
| Available for Multiple-use Analysis | 265,870 | 8,848,121,500 | N/A | N/A |
| Eliminated by Multiple-use Analysis | - 5,108 | - 194,854,000 | N/A | N/A |
| Acceptable for Further Consideration* | 260,762 | 8,653,267,500 | 53,335 | 307,662,600 |

* Includes areas found acceptable and acceptable pending study.

## APPLICATION OF UNSUITABILITY CRITERIA

### Criterion #1-Federal Land Systems

No findings

### Criterion #2-Rights-of-Way and Easements

Some rights-of-way and easements on federal lands were found unsuitable. In summary the findings are:

--Federal highways (400' R/W) 15.4 miles -- 745 acres

--State highways (100' R/W) 1.9 miles -- 23 acres

--Powerlines 230 kV or larger (50' R/W) 3.7 miles -- 22 acres

--Burlington Northern Railroad (100' R/W) 3.3 miles -- 40 acres

Buffer zones for these rights-of-ways are included in criterion #3 (see Map 3 series).

Rights-of-way and easements for small powerlines, pipelines, telephone lines and county roads were not considered unsuitable because these facilities can be relocated to accommodate coal mining.

### Criterion #3--Buffer Zones for Rights-of-Way, Communities and Buildings

Buffer zones were delineated for federal and state highways, Burlington Northern Railroad, one major pipeline and 230 kV or larger electrical lines that were identified in criterion #2. Buffer zones were also identified for occupied dwellings.

Areas within buffer zones found unsuitable are as follows (see Map 3 series):

--Federal highways, 373 acres

--State highways, 47 acres

--230 kV lines, 84 acres

--Burlington Northern Railroad, 80 acres

--Major pipeline, 66 acres

--Dwellings, 132 acres

The total area and estimated tons of federal coal found unsuitable for criteria 2 and 3 is 1,612 acres and 49,556,000 tons.

### Criterion #4--Wilderness Study Areas

No findings

Criterion #5--Scenic Areas

No findings

Criterion #6--Land Used for Scientific Study

No findings

Criterion #7--Historic Lands and Sites

The Crazy Woman Crossing and Battlefield (see Map 4 series) has been determined to be eligible for listing on the National Register of Historic Places by the State Historic Preservation Office and has been determined unsuitable for further consideration. The unsuitable area contains 281 acres and about 12,733,000 tons of coal.

Criterion #8--Natural Areas

An approved BLM recreation management plan for the Dry Creek Petrified Tree Area has recommended a 40-acre parcel of federal land be designated as a natural area. This area consisting of 40 acres, containing 1,360,000 tons of coal, has been determined to be "acceptable pending study" (see Map 4 series).

Criterion #9--Federally-Listed Endangered Species Habitat

The black-footed ferret and bald eagle are the only known federally listed threatened or endangered species which may occur in the review area. Bald eagles are addressed in criteria #'s 11 and 12.

There are no known black-footed ferrets within the review area. However, prairie dog towns are potential habitat and there are 2,800 acres of towns overlying federal coal, 2,753 acres over uncommitted coal and 47 acres over PRLAs (see Map 5 series). These lands are found to be acceptable pending study. If a prairie dog town is included in a tract delineated for leasing, it will be surveyed for black-footed ferrets prior to leasing. These lands contain 91,432,800 tons of high and moderate potential coal.

Criterion #10--State-Listed Endangered Species Habitat

No findings.

Criterion #11--Bald and Golden Eagle Nests

Golden eagle nests and appropriate buffers were identified by the U.S. Fish and Wildlife Service (USFWS), BLM, and the Wyoming Game and Fish Department (see Map 5 series).

There are no known bald eagle nests with the review area. However, there are seven golden eagle nests on or adjacent to federal coal lands. Two nest sites and buffers were determined "unsuitable" (788 acres and 51,900,000 tons), four nest sites and buffers, as "acceptable pending further study" (1,361 acres and 25,959,000 tons of which 317 acres and 5,389,000 tons are within PRLAs), and one

nest site and buffer determined to be "acceptable with the exception(s) applies," that is, the nest can be moved.

Criterion #12--Bald and Golden Eagle Roost

One bald eagle roost and concentration area was found (see Map 5 series). An appropriate buffer zone was drawn in consultation with the USFWS and the Wyoming Game and Fish Department. The buffer area, containing 975 acres and 16,881,000 tons of coal, was found unsuitable.

Criterion #13--Falcon Cliff Nesting Sites

No findings.

Criterion #14--Migratory Bird Habitat

No findings.

Criterion #15--Habitat for State High-Interest Wildlife

Wyoming Game and Fish Department and BLM found 30 habitat areas, containing 23,309 acres and 1,034,438,900 tons of coal of which 426 acres containing 8,689,000 tons are within PRLAs, for high interest resident wildlife species. There are 10 sage grouse strutting grounds, 14 sharptail grouse dancing grounds and one Lewis woodpecker nesting complex in which criterion #15 applied.

These areas were found "acceptable pending study." If any of these areas are included in a tract delineated for leasing, coordination will be carried out with the Wyoming Game and Fish Department to determine unsuitability.

Criterion #16--Floodplains

Although 3,679 acres of federal coal lands were identified as floodplain, stipulations can be developed which can allow coal mining without threatening the beneficial purposes of floodplains. The GS has concurred with this finding.

Criterion #17--Municipal Watersheds

No findings.

Criterion #18--National Resource Waters

No findings.

Criterion #19--Alluvial Valley Floors

Final alluvial valley floor (AVF) guidelines have not been published by the Office of Surface Mining. Therefore, BLM identified possible AVFs based on physical data, such as valley width, drainage area and current agricultural uses (see Map 6 series). In addition, a 1/4 mile buffer was established along each possible AVF to provide the protection specified in the criterion. Both AVFs and their buffer zones have been placed in the category of acceptable pending study, and, in accordance with the Department of the Interior's coal management

regulations, will be carried through activity planning and lease sale in this category (105,587 acres, 4,050,820,300 tons of which 6,125 acres and 133,953,000 tons are within PRLAs).

Criterion #20--State-Proposed Criteria

No findings.

Table 2.

SUMMARY-APPLICATION OF UNSUITABILITY CRITERIA*

| Criterion | Unsuitable Acres | Unsuitable Tons | Acceptable Pending Study Acres | Acceptable Pending Study Tons |
|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 |
| 2 | 830 | 26,687,966 | 0 | 0 |
| 3 | 782 | 22,868,034 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 |
| 7 | 281 | 12,733,000 | 0 | 0 |
| 8 | 0 | 0 | 40 | 1,560,000 |
| 9 | 0 | 0 | 2,800 | 91,432,800 |
| 10 | 0 | 0 | 0 | 0 |
| 11 | 788 | 51,900,000 | 1,361 | 25,959,000 |
| 12 | 975 | 16,881,000 | 0 | 0 |
| 13 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 |
| 15 | 0 | 0 | 23,309 | 1,034,438,900 |
| 16 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 105,587 | 4,050,820,300 |
| 20 | 0 | 0 | 0 | 0 |

* Some areas were found unsuitable or acceptable pending study under more than one criteria. Total acres and tons found unsuitable or acceptable pending study cannot be derived from this table.

Table 3.

COAL LANDS AVAILABLE FOR MULTIPLE-USE ANALYSIS

| | Uncommitted Federal Coal | | PRLAs | |
|---|---|---|---|---|
| | Acres | Tons | Acres | Tons |
| Acceptable Pending Study | 114,039 | 4,551,525,200 | 6,915 | 148,990,000 |
| Acceptable | 151,831 | 4,296,596,300 | 46,420 | 158,672,600 |
| Total Available for Multiple-Use Analysis | 265,870 | 8,848,121,500 | N/A | N/A |
| Unsuitable by Criteria | 3,571 | 128,672,000 | 0 | 0 |

MULTIPLE-USE ANALYSIS

A multiple-use analysis was applied to lands identified as "acceptable" or "acceptable pending study." Conflicts were identified and resources evaluated in terms of impacts from potential coal development. The multiple-use analysis does not apply to lands contained in PRLAs.

1. Producing Oil and Gas Areas

Conflict: Coal leasing, and subsequent development may conflict with oil and gas production in existing fields. Compared to coal, oil and gas is a relatively limited energy reserve. There is no indication that oil/gas reserves are being rapidly depleted in the planning area. Significant amounts of oil/gas production would be lost if coal mining was permitted in existing oil/gas fields. At the same time, the quantity of coal available to meet future demand would not be affected if coal leasing was precluded from producing oil and gas fields. Sufficient coal will be available for further consideration for new leasing to meet any foreseeable demand in the Powder River Basin.

Recommendation: Postpone coal leasing in producing oil and gas fields unless it can be demonstrated that coal development will not interfere with economic recovery of the oil and gas resource. This recommendation could remove up to 2088 acres and 79,713,000 tons of coal from further consideration (see Map 7 series).

The intent of the recommendation is to maximize production of energy resources and not develop one resource to the detriment of another. The quantities of coal available for potential new leasing make it unnecessary to create new conflicts between coal and oil and gas production within the planning unit.

Boundaries of known geologic structures (KGSs), provided by the GS were used to define producing oil and gas areas. The KGS areas would be deleted from further consideration for coal leasing except where it can be shown that economic recovery of oil and gas is or will be completed prior to commencement of possible coal mining operations. The unsuitability criteria were applied to all high and moderate potential coal within the planning unit including that which fell within KGSs. Therefore, it will be possible to lift the constraint whenever GS determines that all or portions of a KGS are no longer required for oil and gas operations.

Following tract delineation, new oil and gas operations occurring within a tract will be treated as a resource conflict during site-specific analysis and tract ranking. This procedure has been worked out between, BLM and GS under departmental guidelines for avoidance or mitigation of oil and gas and coal development conflicts.

Public Land Exchanges and Sales-General

Conflict: A 1979 MFP decision states that isolated tracts of public land will be considered for exchange or sale. However, land classifications necessary for such transfers would segregate tracts from other uses.

Recommendation: Isolated tracts identified for general consideration for sale or exchange in the 1979 MFP will not be so considered if they are within high and moderate potential coal areas.

Public Land Sale or Lease-Recreation and Public Purposes

Conflict: Sheridan County has expressed interest in specific public lands for recreation and public purposes. Coal development would conflict with these proposed uses.

Recommendation: The following tracts of public land (514 acres containing 10,421,000 tons of coal) will not be considered for coal leasing until 1985 (see Map 7 series):

T. 56 N., R. 82 W., Sec. 27, NW1/4SE1/4, SW1/4NW1/4

Sec. 31, SE1/4NE1/4, E1/2SE1/4

T. 56 N., R. 83 W., Sec. 12, W1/2E1/2

T. 57 N., R. 84 W., Sec. 7, all public land

T. 55 N., R. 85 W., Sec. 13, NE1/4SW1/4

Uses authorized under the Recreation and Public Purposes Act of 1926 are priority land uses. By 1985, Sheridan County will have time to identify tracts needed for these uses. Those tracts that aren't identified as necessary for recreation and public purposes will be reevaluated for coal leasing.

4. Communities

Conflict: Some cities and towns are located on or adjacent to federal coal lands with high or moderate development potential. While leasing is prohibited within the corporate limits of cities and towns, significant environmental problems could result from leasing and mining of adjacent lands.

Recommendation: Establish a three-mile buffer zone around the cities of Sheridan and Buffalo (see Map 7 series). Remove lands within the buffer from further consideration for coal leasing. The county commissioners and planning departments in Sheridan and Johnson counties support a three-mile buffer zone around presently incorporated towns. The buffer zone is required to accommodate expected growth and remove possible surface mining from urban areas. Surface value for community expansion, open space, and a buffer zone exceed present mineral values. No high or moderate potential coal exists within similar buffer zones around Clearmont, Dayton or Ranchester.

This recommendation removes 2,506 acres containing about 104,720 tons of coal from further consideration.

5. Historic Sites

Conflict: Segments of the Bozeman Trail fall within high or moderate coal areas. The trail represents an important historical resource which could be destroyed by coal development.

Recommendation: Potential lease tracts will be surveyed for remnants of the trail and appropriate mitigating measures will be developed prior to lease (see Map 7 series).

BLM does not presently have sufficient information to recommend specific protection measures.

6. Forestry

Conflict: A 1979 MFP decision states that no forest products will be removed from public lands in Sheridan County. Surface coal mining would necessitate removing the timber.

Recommendation: Forested areas on public lands within high and moderate potential coal areas are acceptable for further leasing consideration.

7. Utility Corridors

Conflict: The 1979 MFP established corridors around existing facilities and recommended that new facilities will be located within the same corridors when possible.

New facilities associated with potential coal development were not considered in the MFP. Additional corridors will be needed to provide for potential new facilities.

The Sheridan/Johnson County Rural Election Association (REA) has identified a need for and has located a probable major route from Kaycee north to Arvada. In addition, Tri-State may need a new transmission route into southeastern Johnson County.

Recommendation: To accommodate the needs identified above, establish a north-south utility corridor along the west side of the Powder River which allows for a two-mile buffer zone along the river. New routes planned for the Sheridan/Johnson REA transmission line from Arvada to the Montana state line, will also be established as a corridor (see Map 7 series). The following facilities will be located within the corridors: powerlines carrying 69 kV or more; pipelines, six inches in diameter or more; railroads; and, access roads. New corridors will be considered only when location within defined corridors is shown to be impractical and unfeasible and where the environmental impact can be mitigated.

8. Emergency Coal Leasing

Conflict: The federal coal management regulations (Title 43 Code of Federal Regulations, Subpart 3425) allow for leasing on application. These include emergency leasing where federal coal would be otherwise bypassed or where additional coal is required to maintain production on existing mines. However, the areas applied for may not be included in the high and moderate development potential coal areas.

Recommendation: To accommodate leasing on application (43 CFR 3425), leasing can occur where uncommitted federal coal is adjacent to and can be mined concurrently with existing mining operations and environmental impacts can be mitigated.

SURFACE OWNER CONSULTATION

Surface owners of record within high and moderate potential coal areas were consulted to determine preference for or against mining. No attempt was made to determine if owners were "qualified surface owners" and no consultation was carried out in PRLAs. Letters were sent to about 300 surface owners and the results are not yet complete.

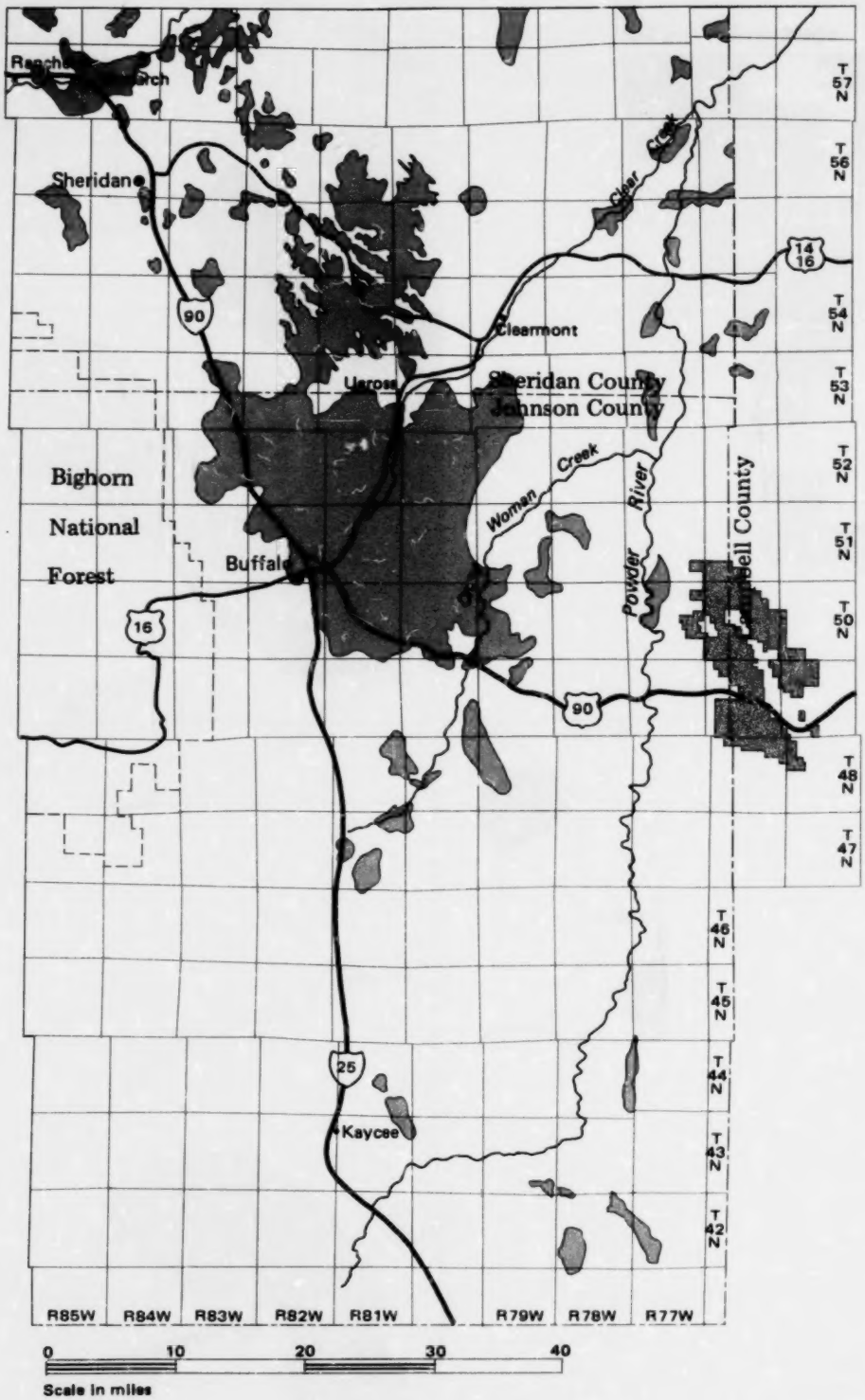
## ACTIONS AFTER THE AMENDMENT

Public comment on the findings and recommendations will be accepted until May 22, 1981. A public meeting and hearing will be held in Sheridan before the end of the public comment period.

Following public comment, final planning decisions will be reached and the MFP amendment finalized. A summary brochure will be mailed to interested parties. A 30-day protest period will follow the amendment. During that time, any person who participated in the planning process and has an interest which may be adversely affected by the decisions may protest the approval of the amendment.

Areas found acceptable, or acceptable pending study as a result of the final planning decision, can be further considered for leasing through the processing of PRLA's, lease exchanges and modifications, leasing on application, or through the competitive leasing program.

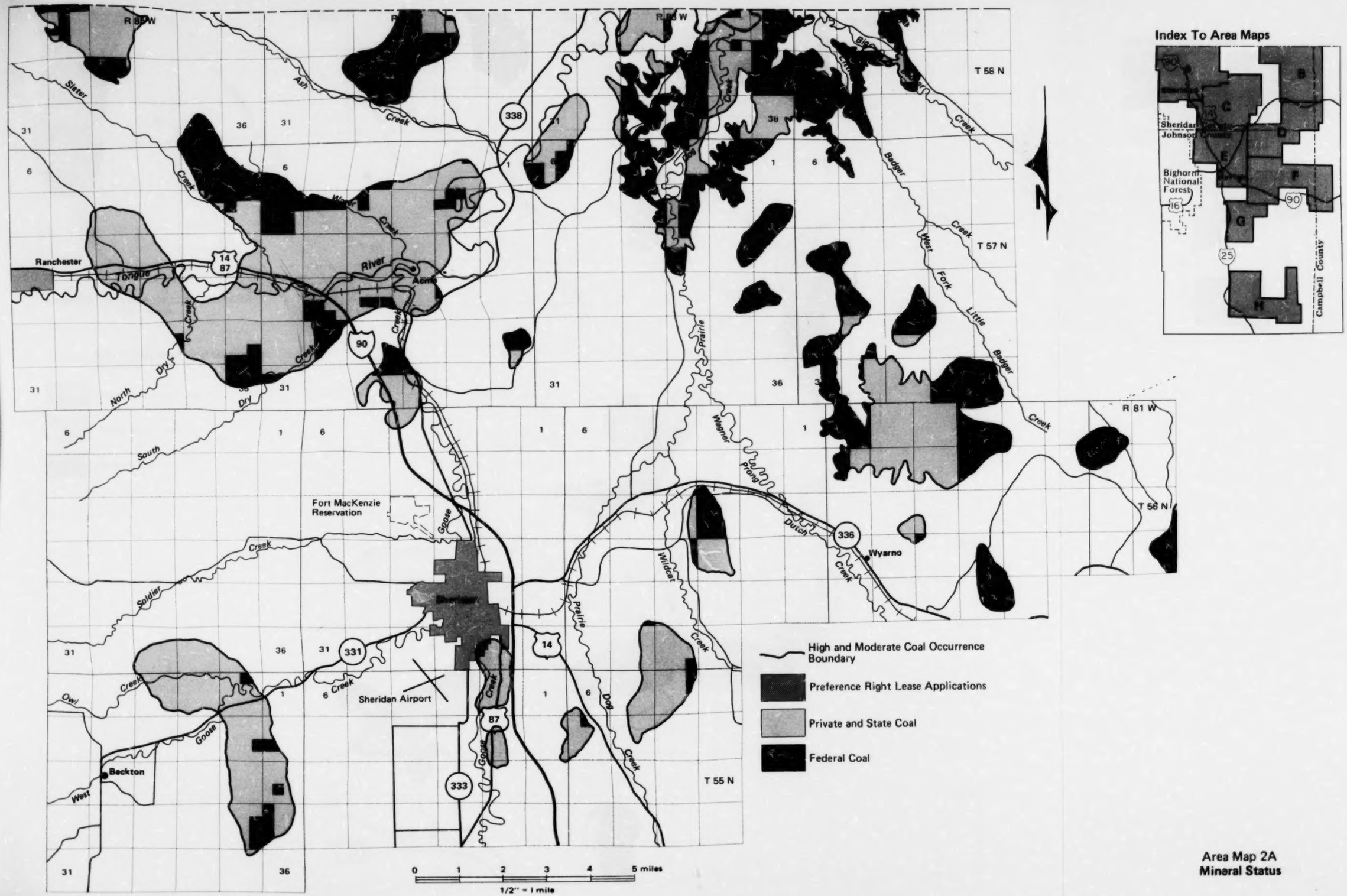
A second competitive coal lease sale is scheduled for 1984 in the Powder River Basin of Wyoming and Montana. The sale may include unleased tracts from the 1982 lease sale, plus other planning amendment areas in Campbell and Converse counties, such as the Thunder Basin National Grasslands. However, the level of coal data available in the Western Powder River Basin is not sufficient at present for GS to delineate competitive coal lease tracts. However, if GS obtains adequate information on areas that came through final planning, expressions of industry interest may be issued and tracts delineated for 1984 lease sale.



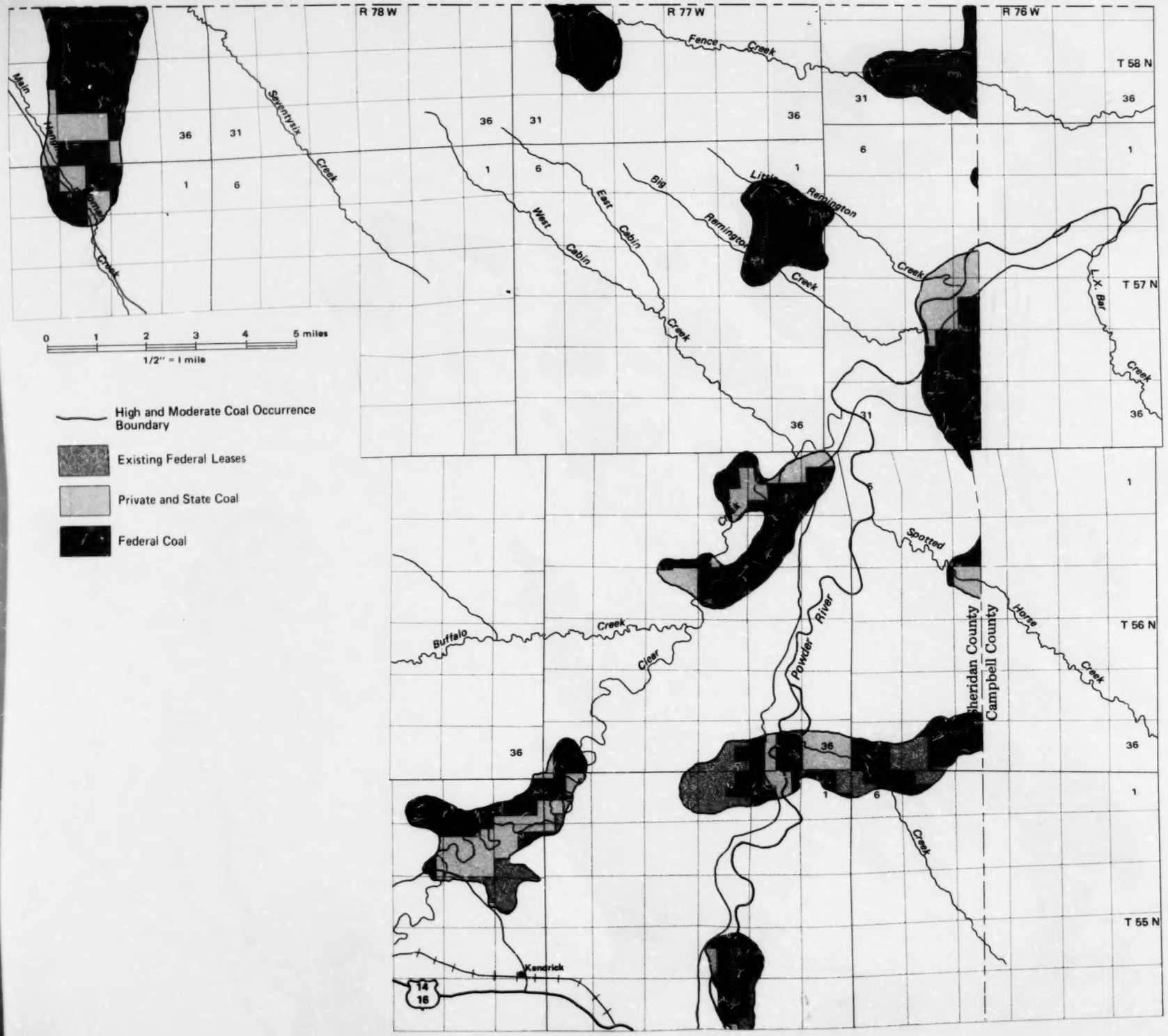

High and Moderate Coal Occurrence

Preference Right Lease Applications

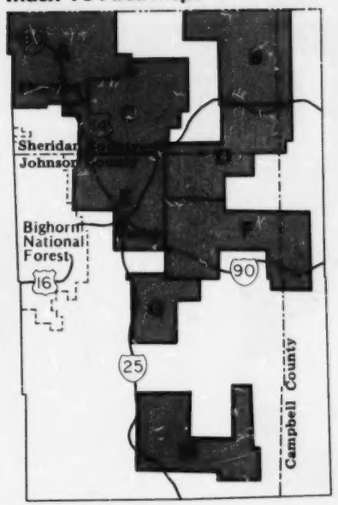
Map I
**Western Powder River Review Area**



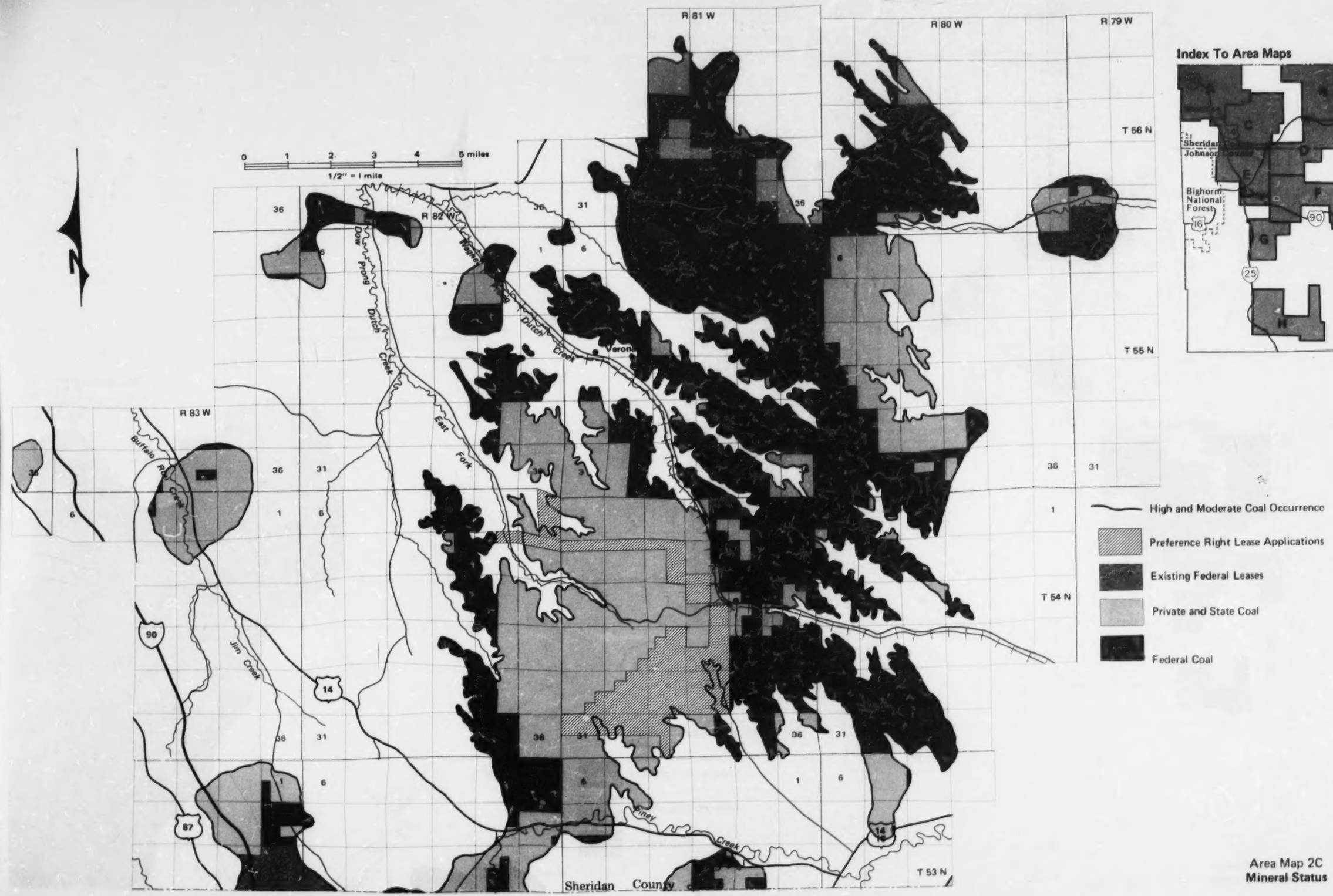

Area Map 2A
**Mineral Status**




**Index To Area Maps**




Area Map 28
**Mineral Status**




Area Map 2C
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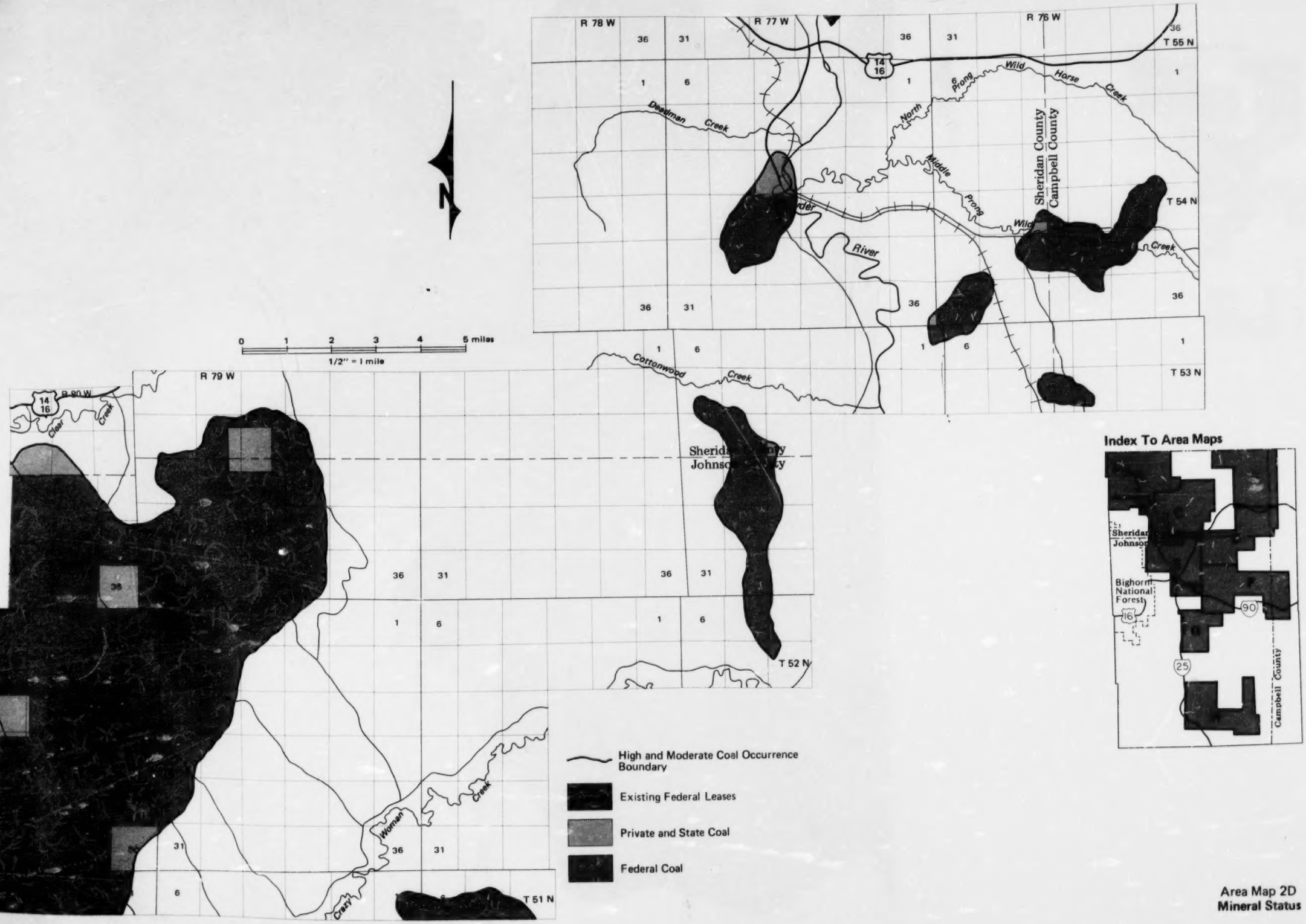


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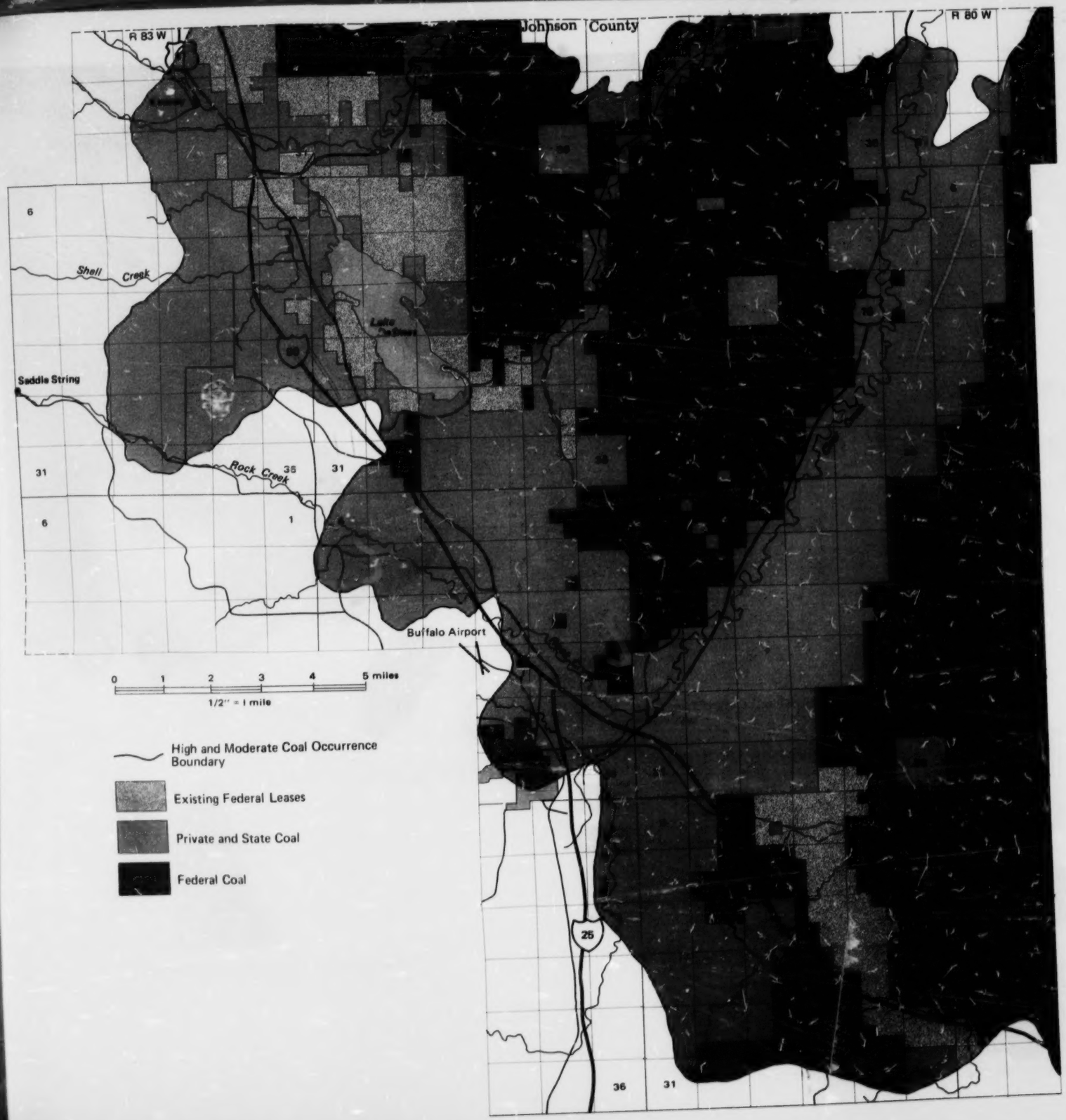
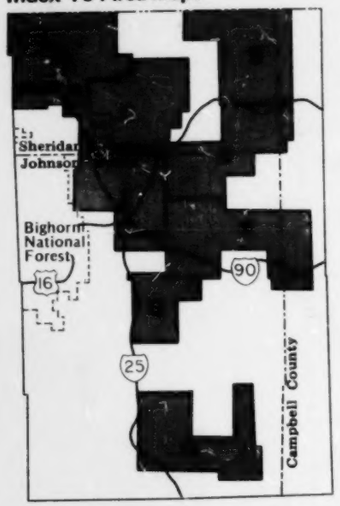
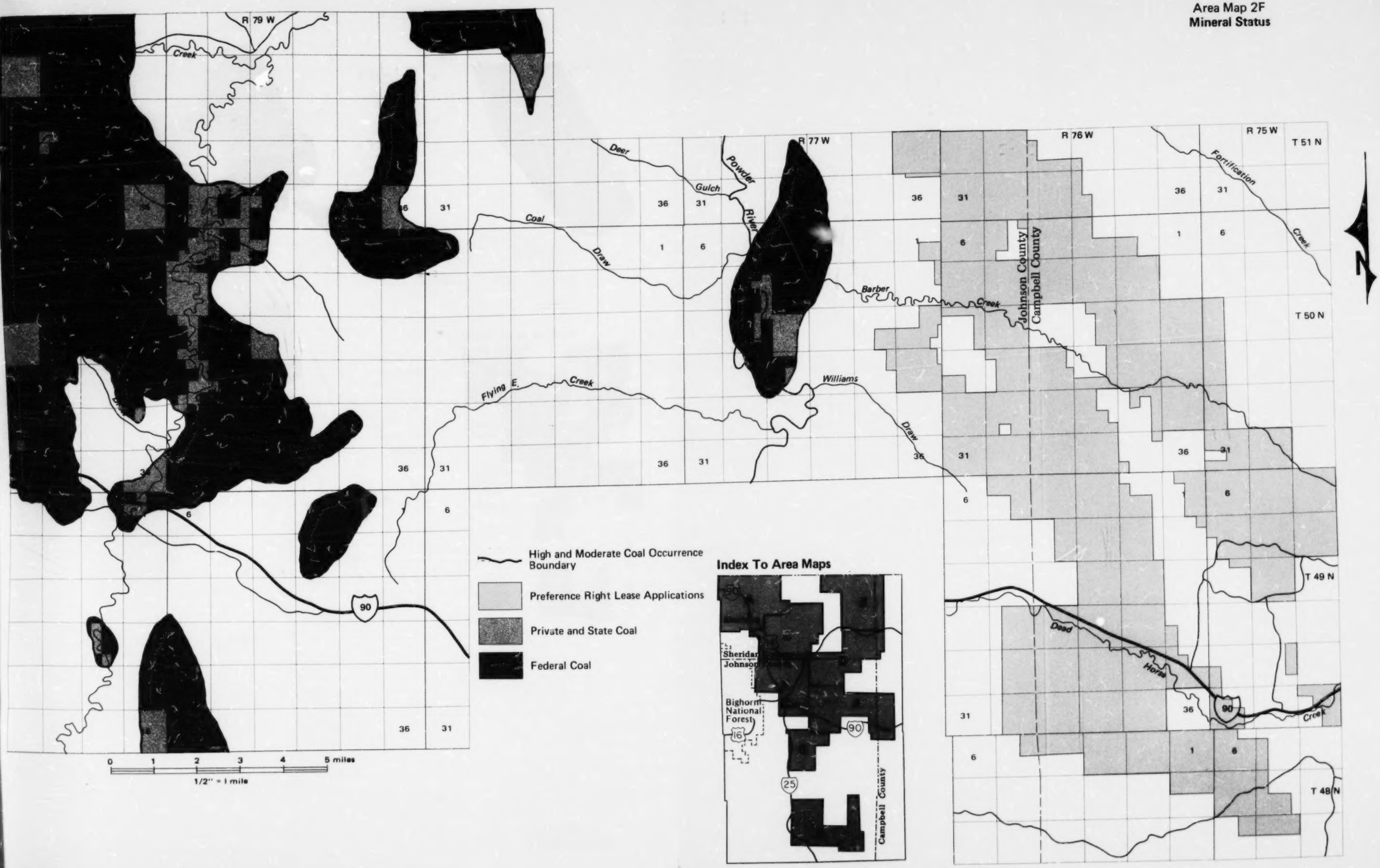
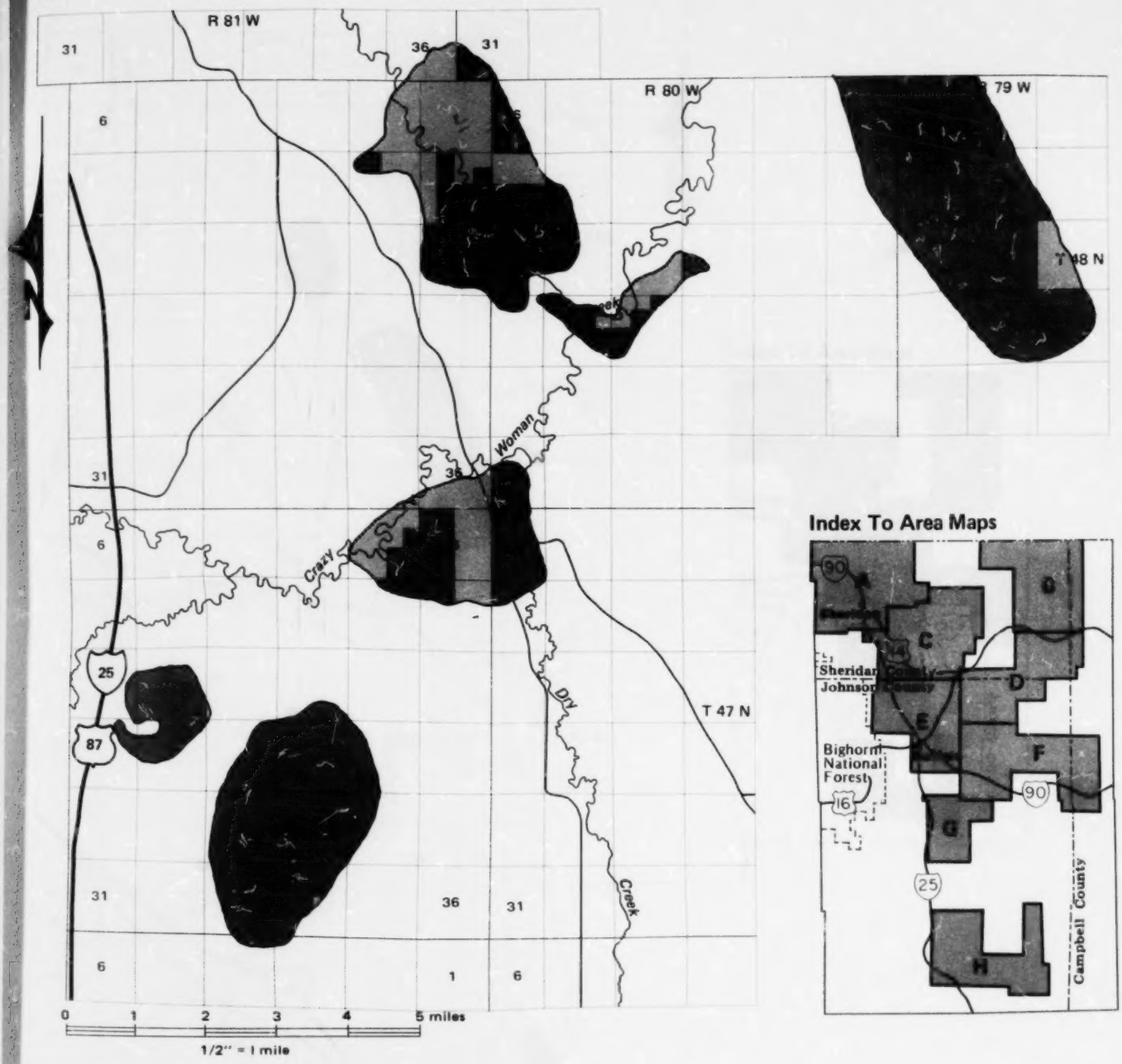



Area Map 2E
Mineral Status

Area Map 2F
**Mineral Status**






**Index To Area Maps**




High and Moderate Coal Occurrence Boundary

Private and State Coal

Federal Coal

Area Map 2G
**Mineral Status**

High and Moderate Coal Occurrence Boundary

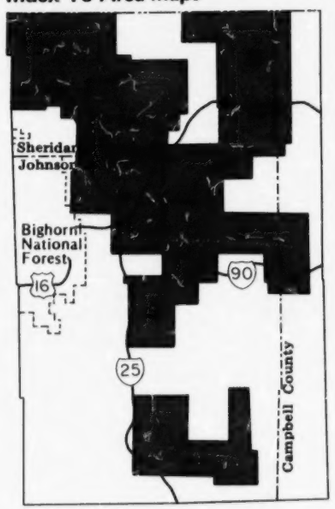
Private and State Coal

Federal Coal

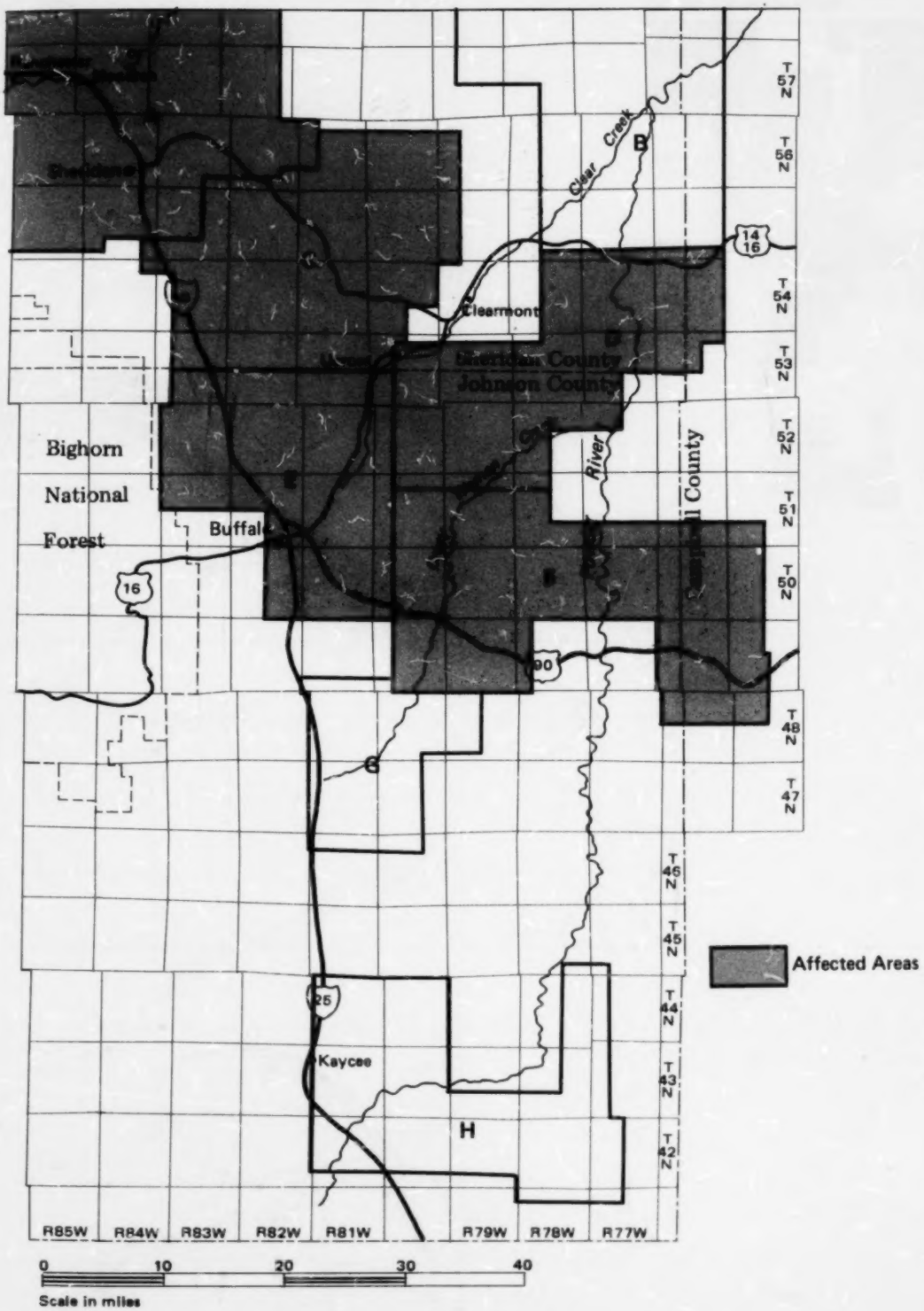
0 1 2 3 4 5 miles

1/2" = 1 mile

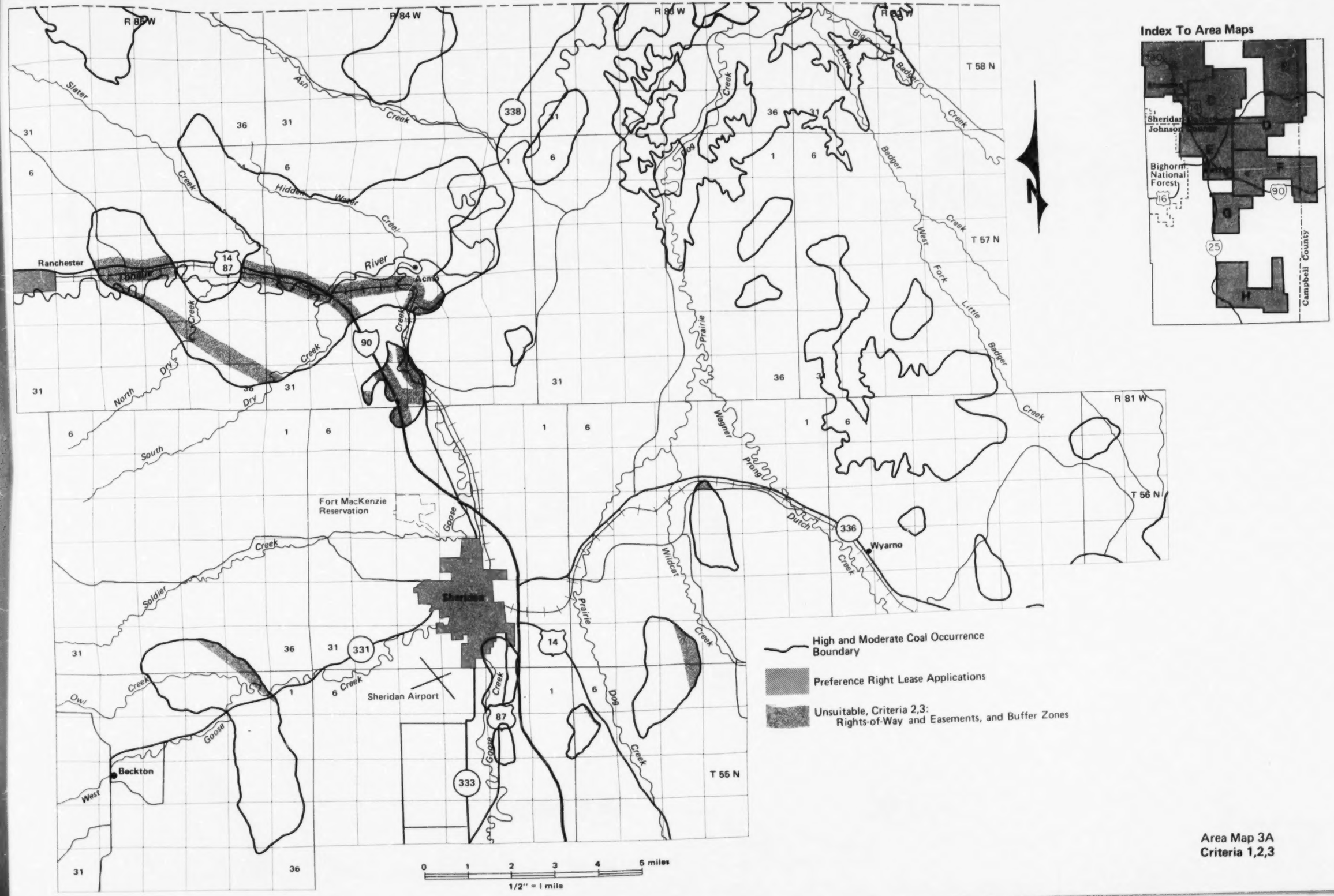
**Index To Area Maps**



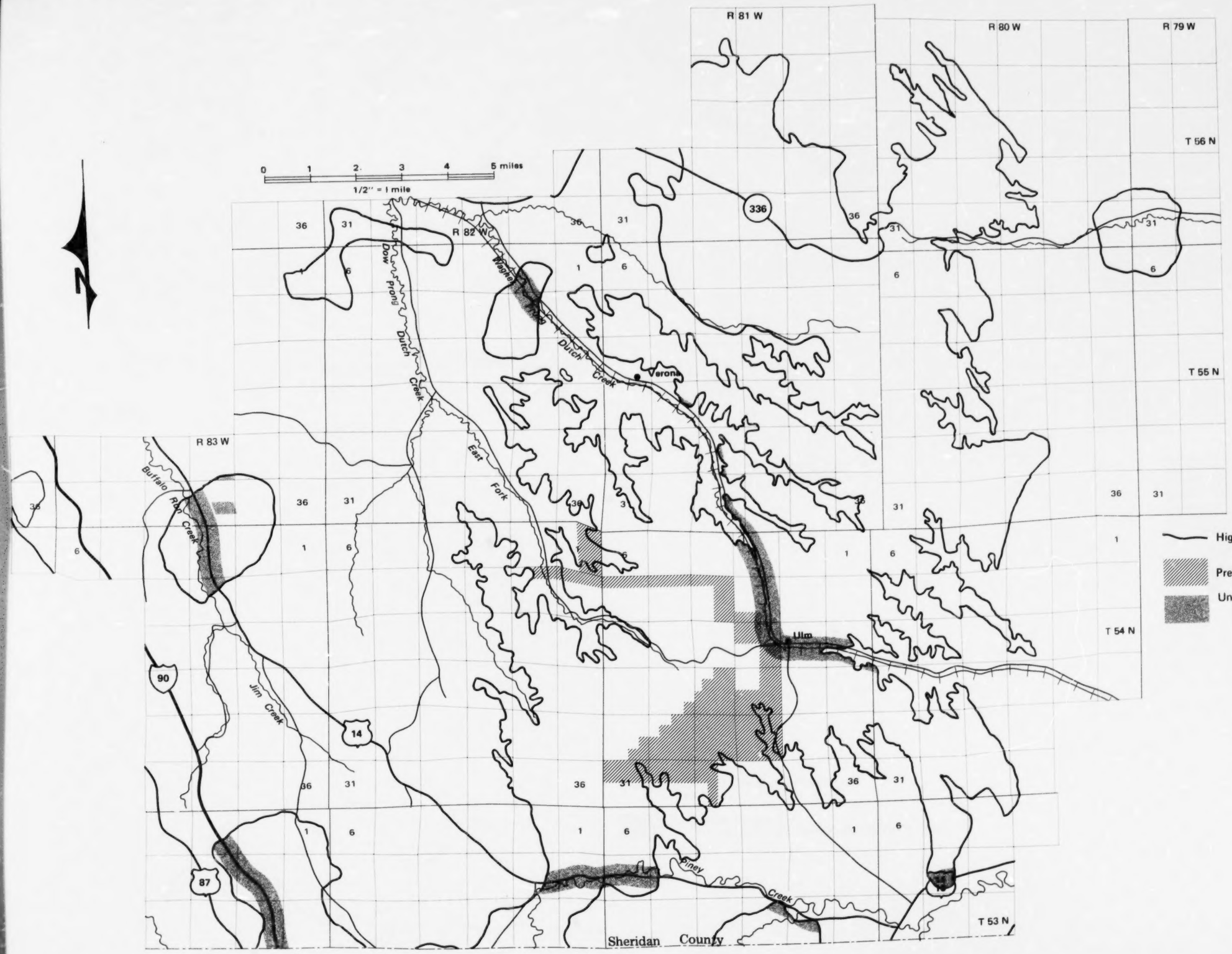

Area Map 2H
**Mineral Status**




Map 3
**Areas Affected by Criteria 1,2,3**

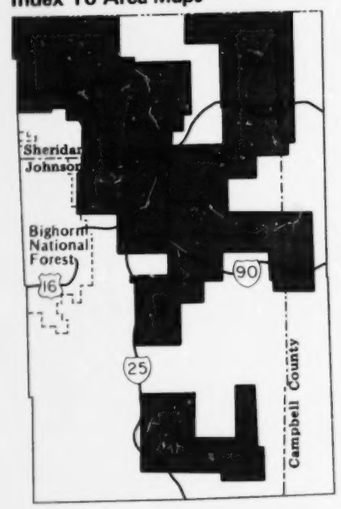



Area Map 3A
**Criteria 1,2,3**

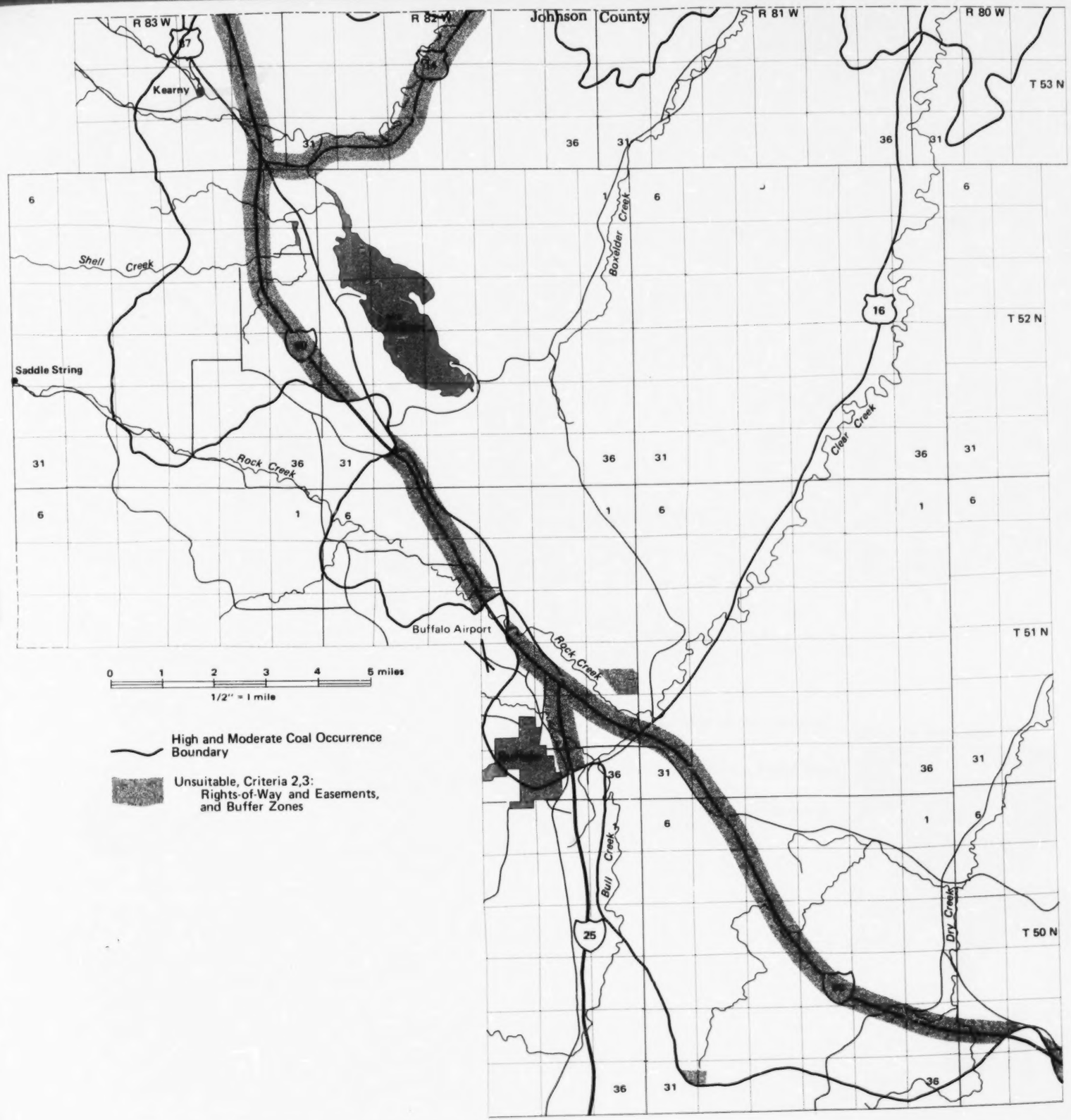



Area Map 3C
**Criteria 1,2,3**

**Index To Area Maps**




Area Map 3D
Criteria 1,2,3

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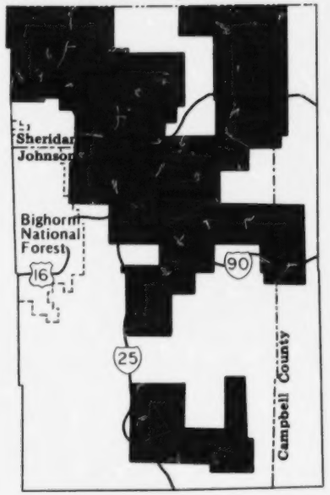



**Area Map 3E**
**Criteria 1,2,3**

Area Map 3F
Criteria 1,2,3

R 80 W
R 79 W
R 78 W
R 77 W
R 76 W
R 75 W
T 51 N
T 50 N
T 49 N
T 48 N

Creek
Dry
Creek
Woman
Pine
Crazy
Deer
Gulch
Powder
River
Coal
Draw
Barber
Creek
Flying E.
Creek
Williams
Draw
Fortification
Creek
Johnson County
Campbell County
Dead
Horse
Creek

36 31 1 6

90

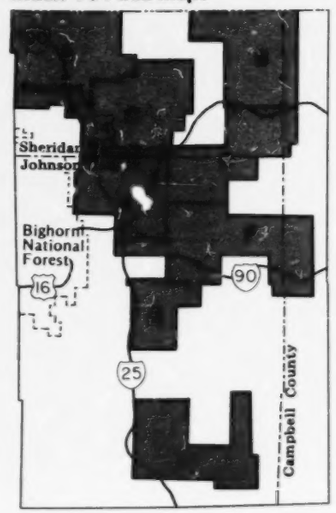
0 1 2 3 4 5 miles
1/2" = 1 mile

High and Moderate Coal Occurrence Boundary

Preference Right Lease Applications

Unsuitable, Criteria 2,3:
Rights-of-Way and Easements, and Buffer Zones

**Index To Area Maps**

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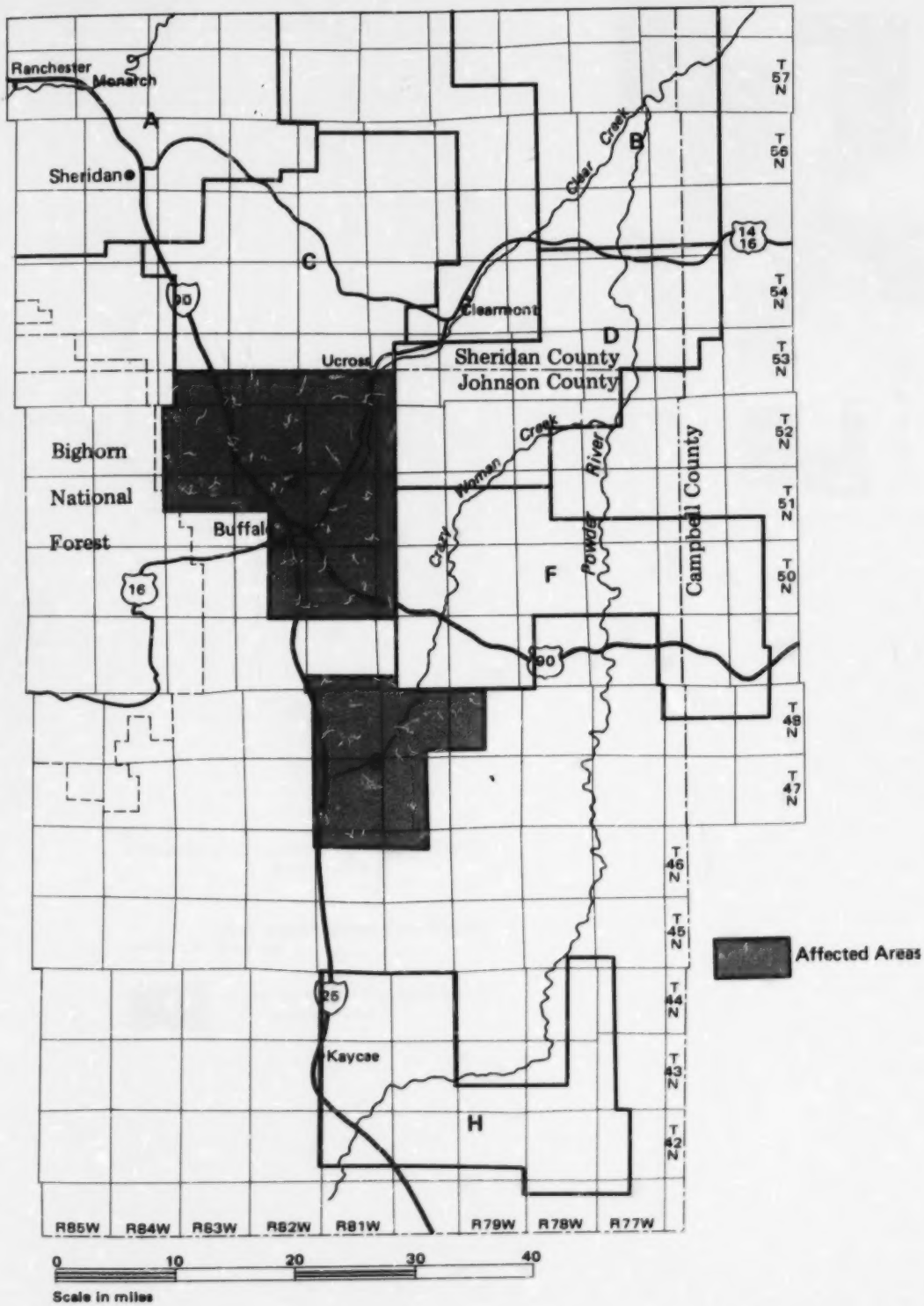
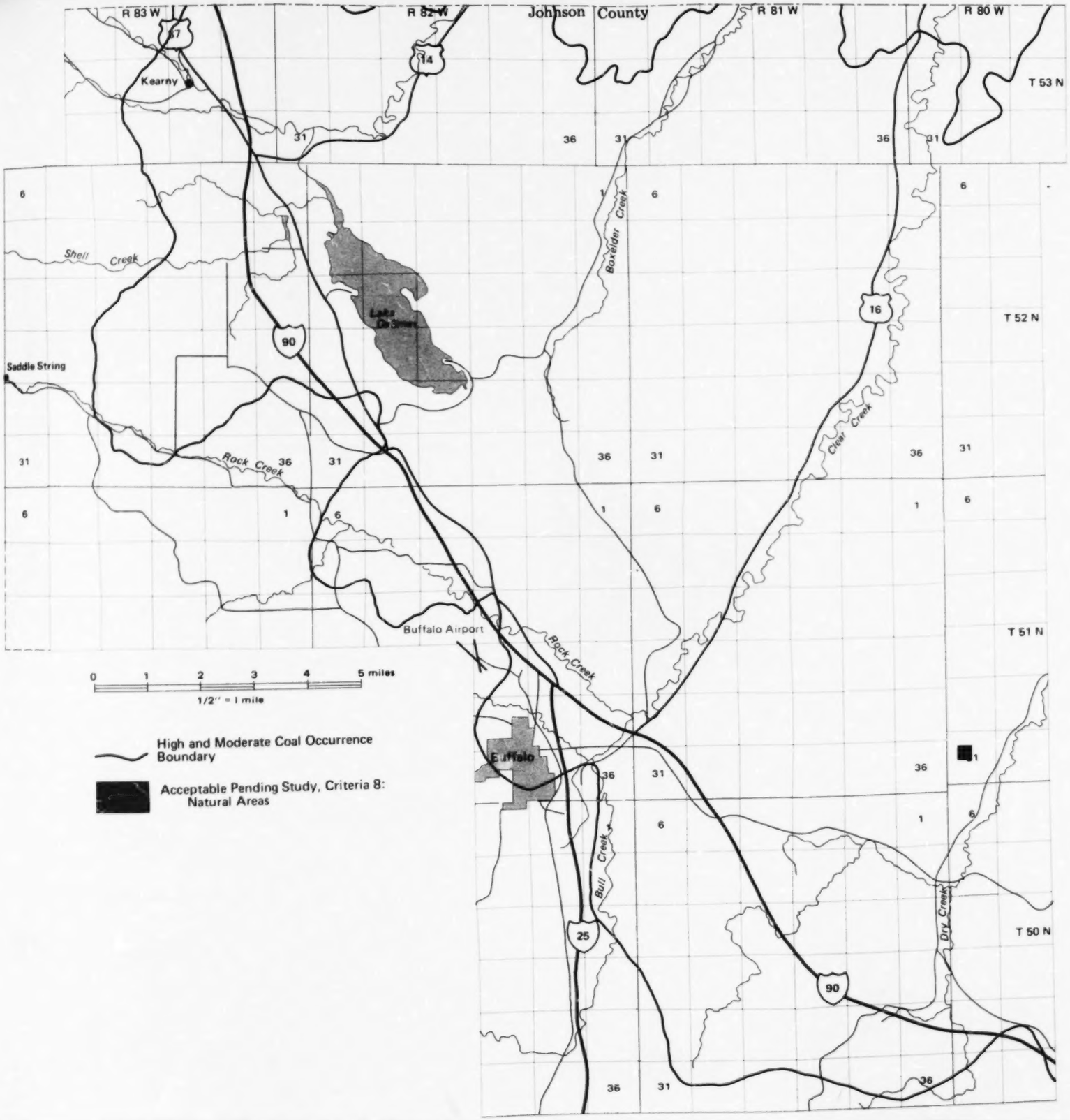
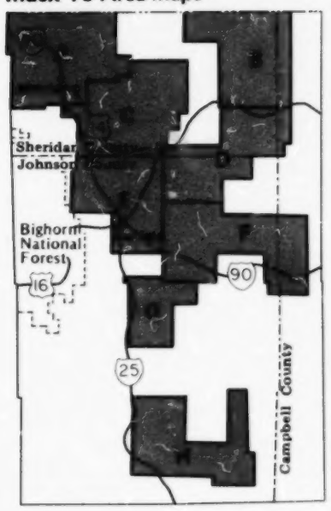
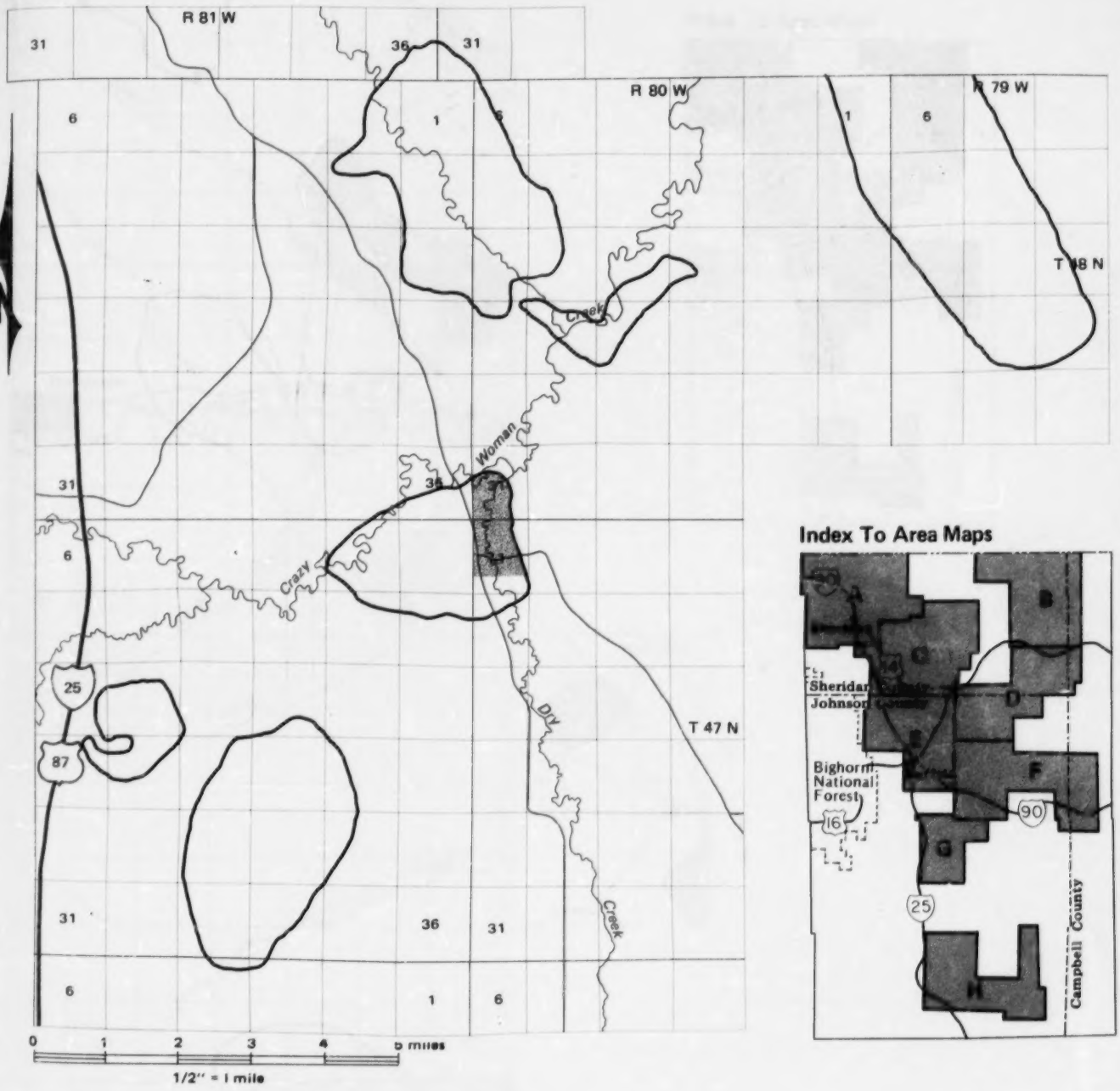



**Map 4**
**Areas Affected by**
**Criteria 4,5,6,7,8**




Area Map 4E
Criteria 4,5,6,7,8

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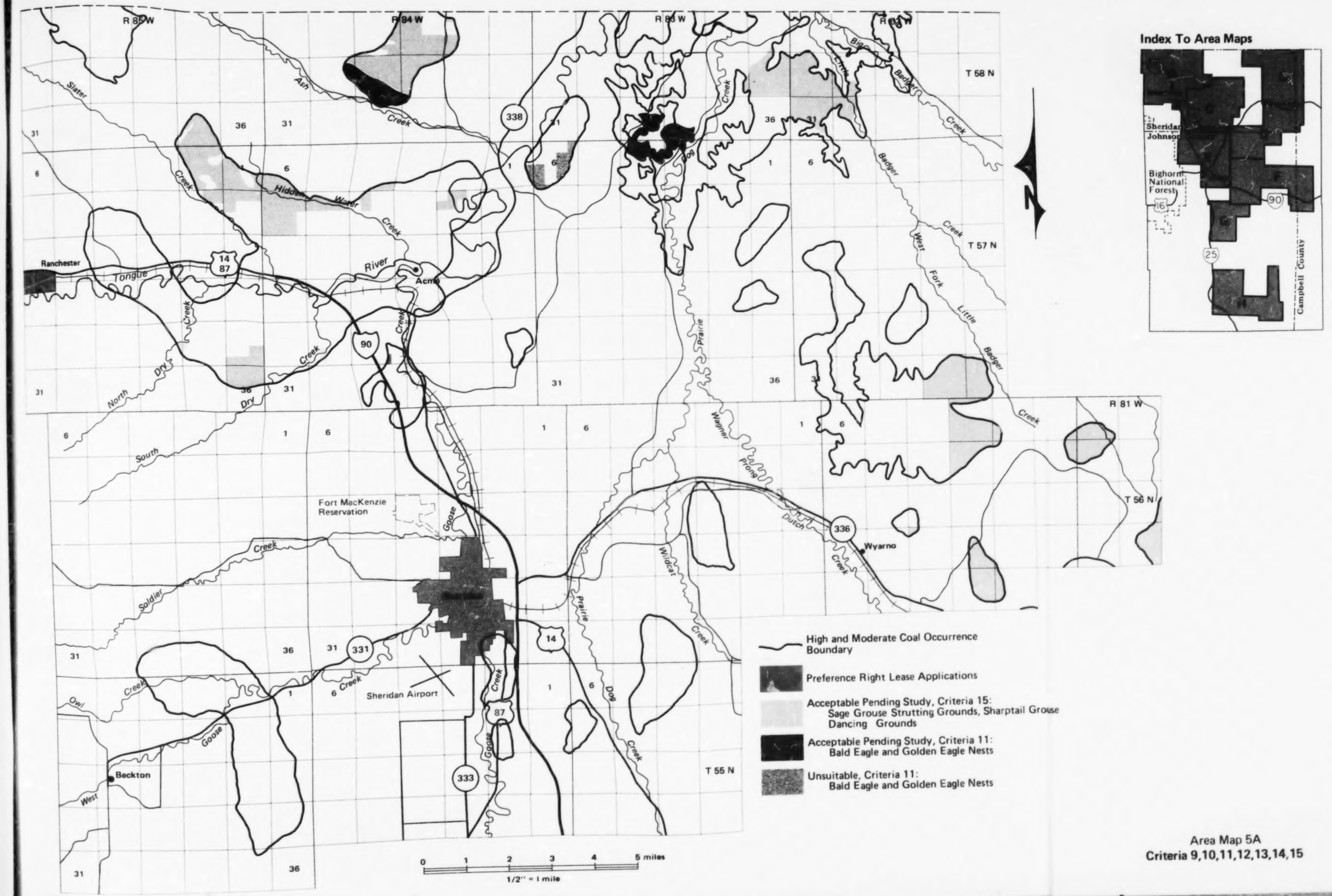
High and Moderate Coal Occurrence Boundary

Unsuitable, Criteria 7: Historic Lands and Sites

Area Map 4G
**Criteria 4,5,6,7,8**

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High and Moderate Coal Occurrence Boundary

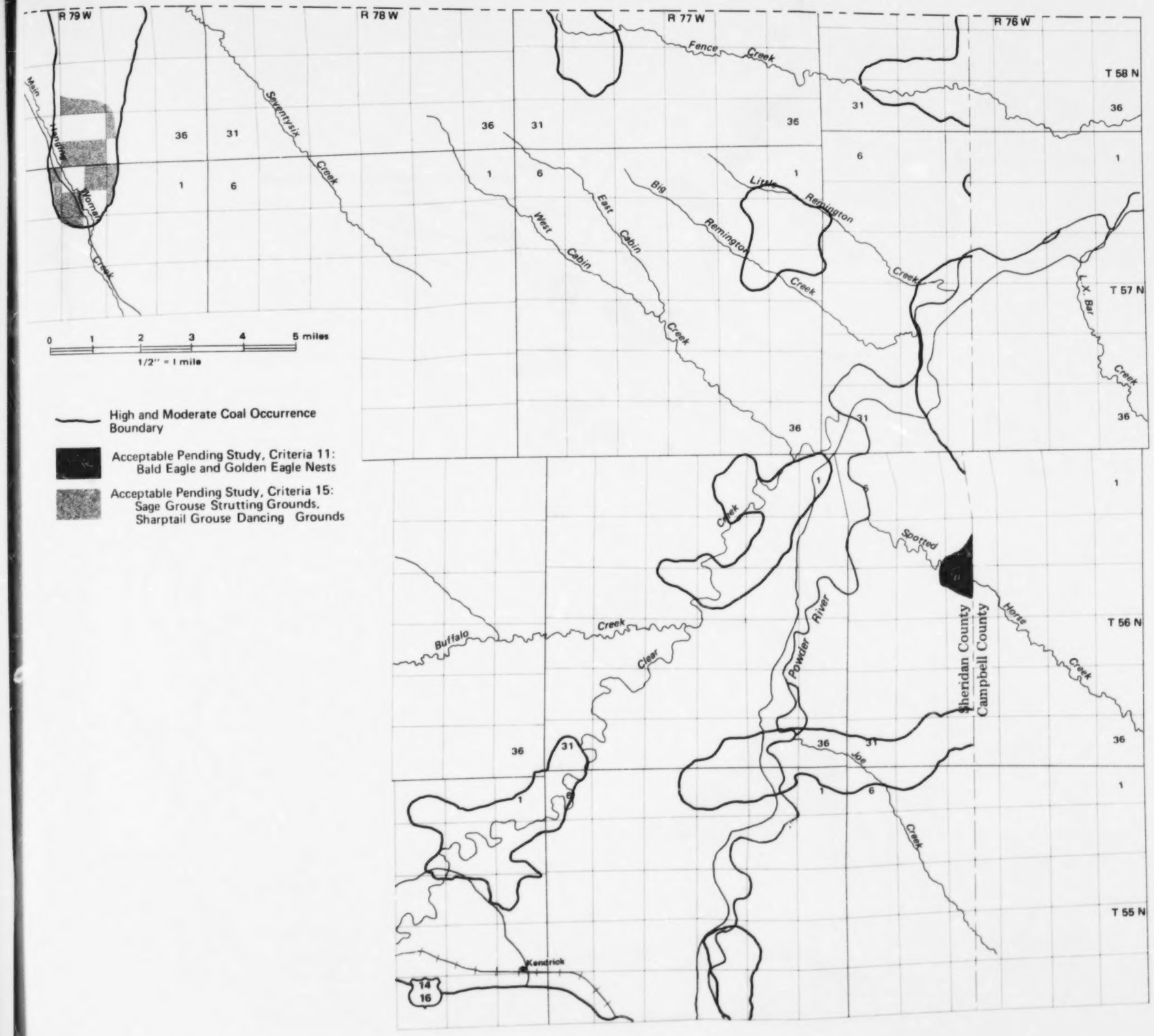
Preference Right Lease Applications

Acceptable Pending Study, Criteria 15:
Sage Grouse Strutting Grounds, Sharptail Grouse Dancing Grounds

Acceptable Pending Study, Criteria 11:
Bald Eagle and Golden Eagle Nests

Unsuitable, Criteria 11:
Bald Eagle and Golden Eagle Nests

Area Map 5A
**Criteria 9,10,11,12,13,14,15**

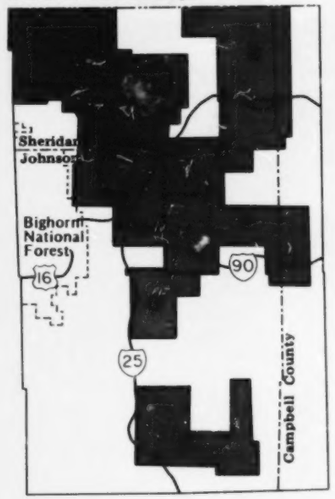



High and Moderate Coal Occurrence Boundary

Acceptable Pending Study, Criteria 11: Bald Eagle and Golden Eagle Nests

Acceptable Pending Study, Criteria 15: Sage Grouse Strutting Grounds, Sharptail Grouse Dancing Grounds

**Index To Area Maps**




Area Map 5B
**Criteria 9,10,11,12,13,14,15**

R 81 W

R 80 W

R 79 W

T 56 N

T 55 N

T 54 N

T 53 N

R 83 W

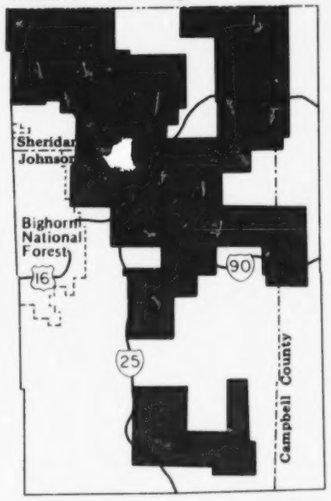
R 82 W

0 1 2 3 4 5 miles

1/2" = 1 mile

N

Index To Area Maps




336

Dow Prong Dutch Creek

Wagner Prong Dutch Creek

East Fork

Buffalo Run Creek

Jim Creek

Piney Creek

Verona

Ulm

90

14

87

14 16

Sheridan County

High and Moderate Coal Occurrence

Preference Right Lease Applications

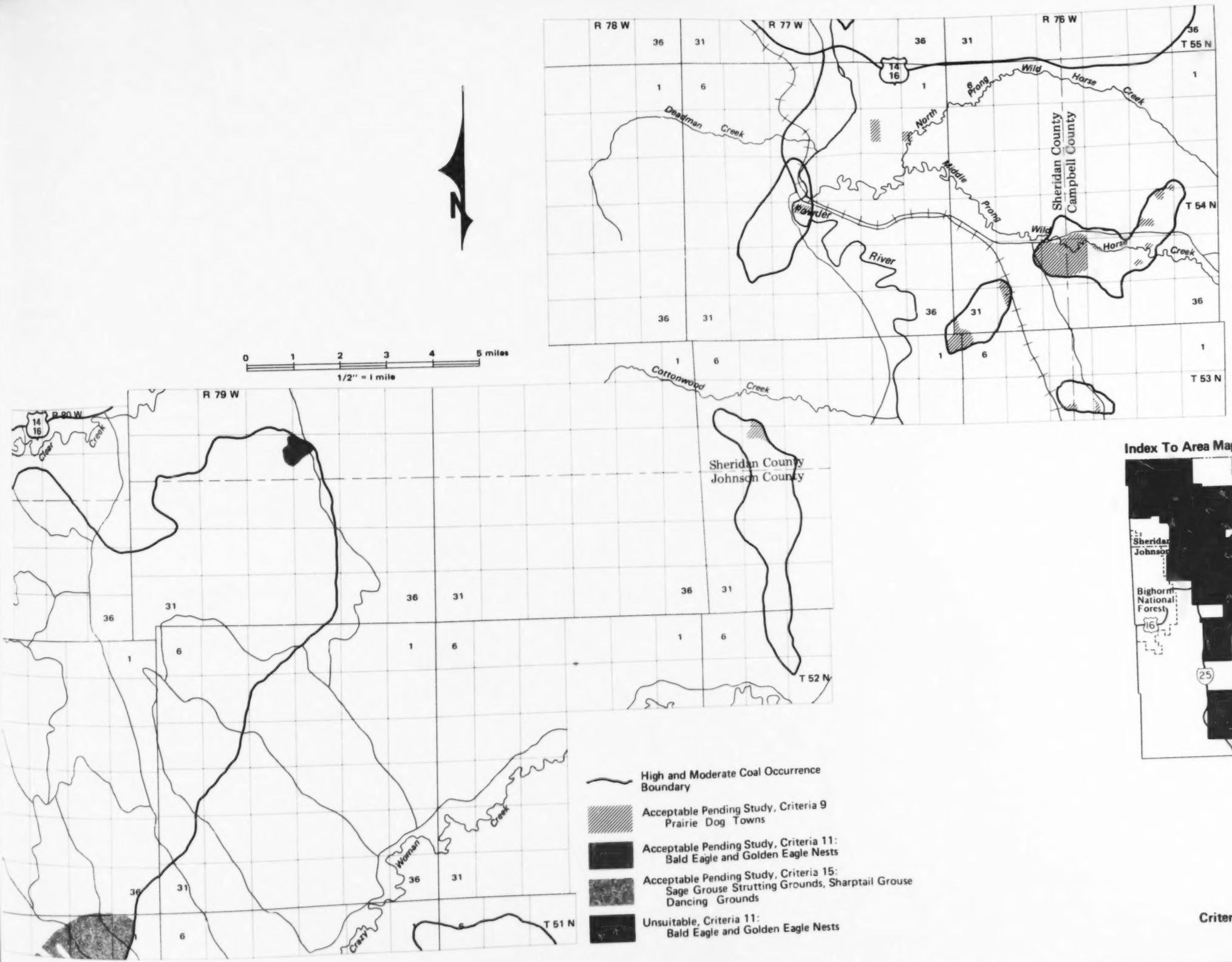
Acceptable Pending Study, Criteria 9 : Prairie Dog Towns

Acceptable Pending Study, Criteria 11: Bald Eagle and Golden Eagle Nests

Acceptable Pending Study, Criteria 15: Sage Grouse Strutting Grounds, Sharptail Grouse Dancing Grounds

Area Map 5C

**Criteria 9,10,11,12,13,14,15**

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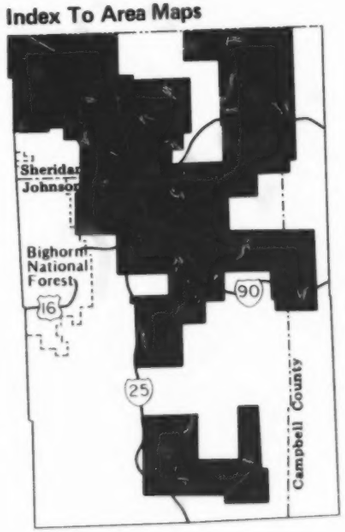



Area Map 5D
**Criteria 9,10,11,12,13,14,15**

Johnson County

R 83 W | R 82 W | R 81 W | R 80 W

T 53 N | T 52 N | T 51 N | T 50 N

Kearny

Saddle String

Shell Creek

Rock Creek

Clear Creek

Buffalo Airport

Bull Creek

Dry Creek

90 | 16 | 14 | 25

0 1 2 3 4 5 miles

1/2" = 1 mile

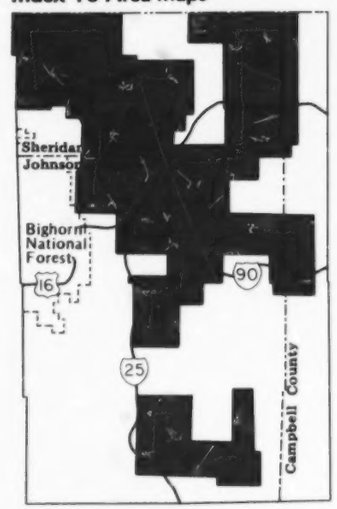
High and Moderate Coal Occurrence Boundary

Acceptable Pending Study, Criteria 9
Prairie Dog Towns

Acceptable Pending Study, Criteria 15:
Sage Grouse Strutting Grounds,
Sharptail Grouse Dancing Grounds

Unsuitable, Criteria 11:
Bald Eagle and Golden Eagle Nests

**Index To Area Maps**




Area Map 5E
**Criteria 9,10,11,12,13,14,15**

Area Map 5F
Criteria 9,10,11,12,13,14,15

R 80 W
R 79 W
R 78 W
R 77 W
R 76 W
R 75 W
T 51 N
T 50 N
T 49 N
T 48 N
Creek
Dry
Woman
Coal
Draw
Deer
Gulch
Powder
River
Barber
Fortification
Johnson County
Campbell County
Flying E
Williams
Dead
Horse
36
31
1
6
90
14
16
25

High and Moderate Coal Occurrence Boundary

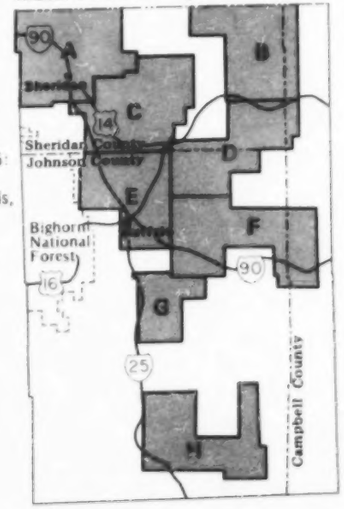
Preference Right Lease Applications

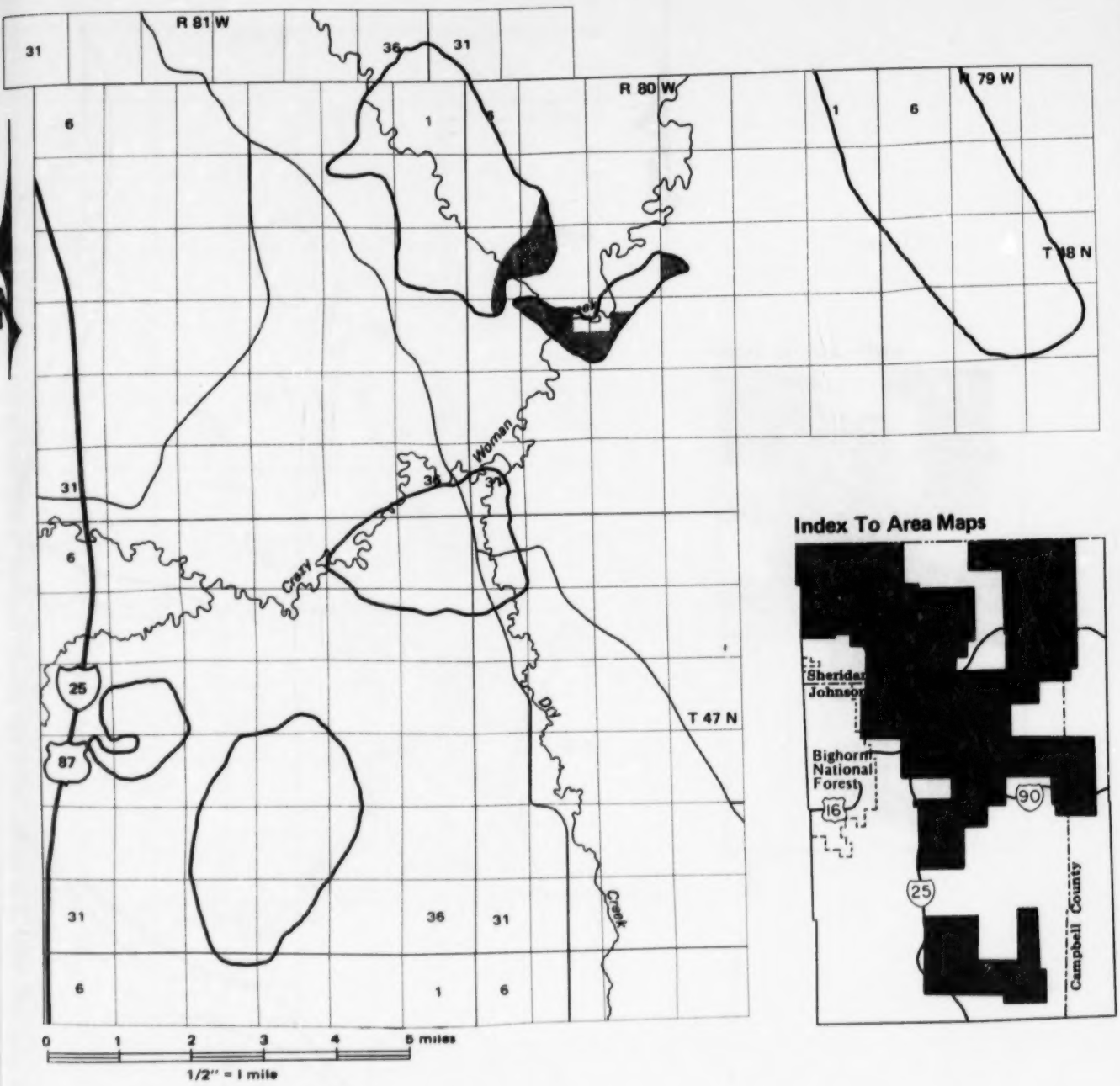
Acceptable Pending Study, Criteria 9 Prairie Dog Towns

Acceptable Pending Study, Criteria 15 Sage Grouse Strutting Grounds, Sharptail Grouse Dancing Grounds,

0 1 2 3 4 5 miles
1/2" = 1 mile

**Index To Area Maps**



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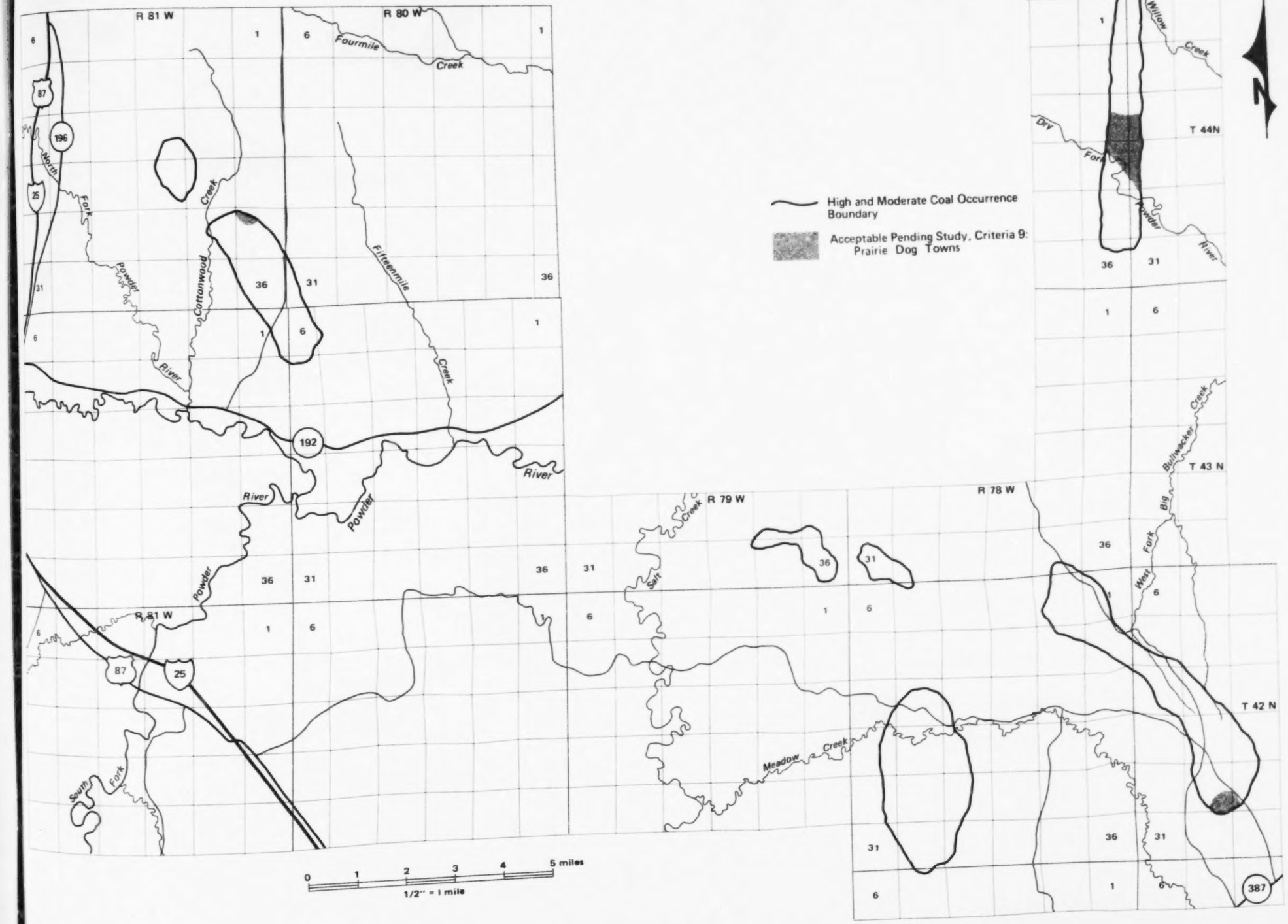
High and Moderate Coal Occurrence Boundary

Unsuitable, Criteria 12:
Bald Eagle and Golden Eagle Roosts

Area Map 5G
**Criteria 9,10,11,12,13,14,15**




High and Moderate Coal Occurrence Boundary

Acceptable Pending Study, Criteria 9: Prairie Dog Towns

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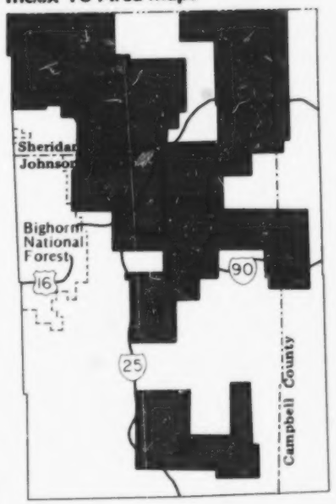
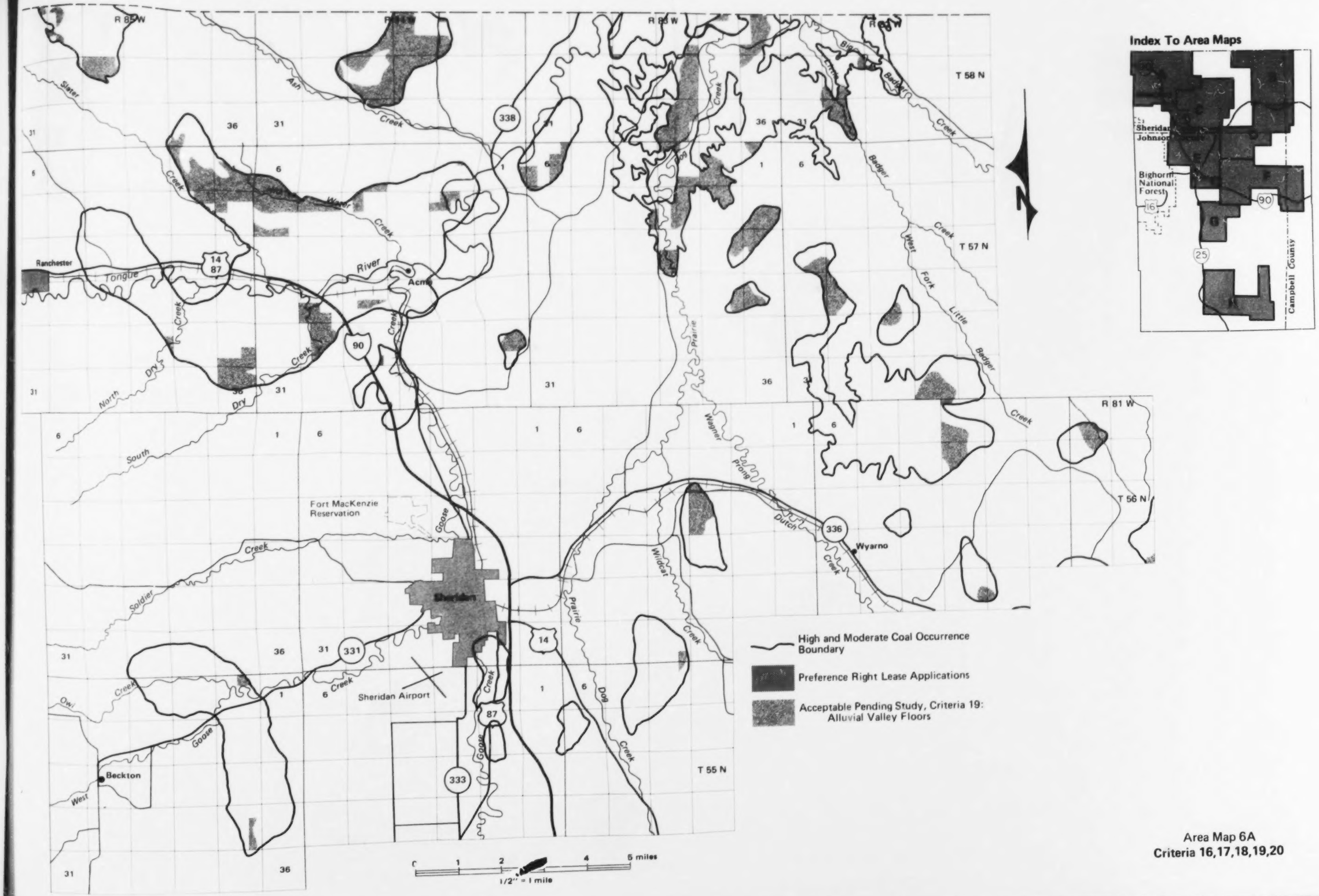
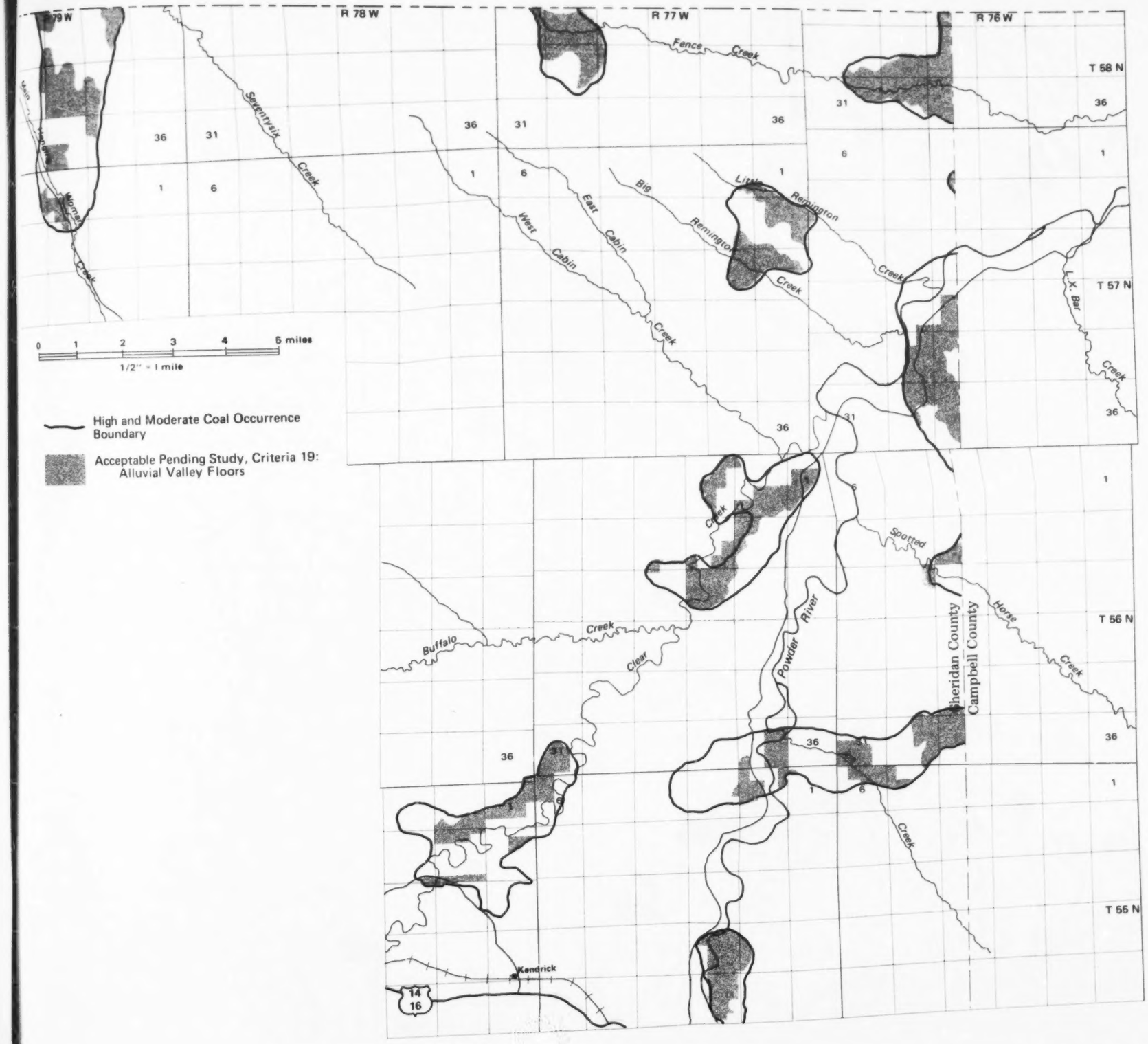


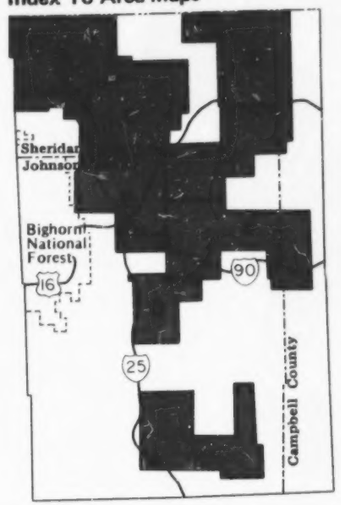

Area Map 5H
**Criteria 9,10,11,12,13,14,15**




Area Map 6A
**Criteria 16,17,18,19,20**




Index To Area Maps




Area Map 6B
Criteria 16,17,18,19,20

R 81 W

R 80 W

R 79 W

T 56 N

T 55 N

T 54 N

T 53 N

R 82 W

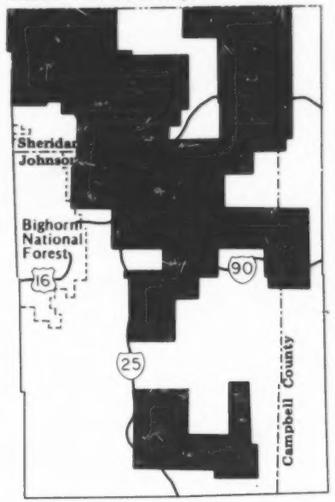
R 83 W

0 1 2 3 4 5 miles

1/2" = 1 mile

N

Index To Area Maps



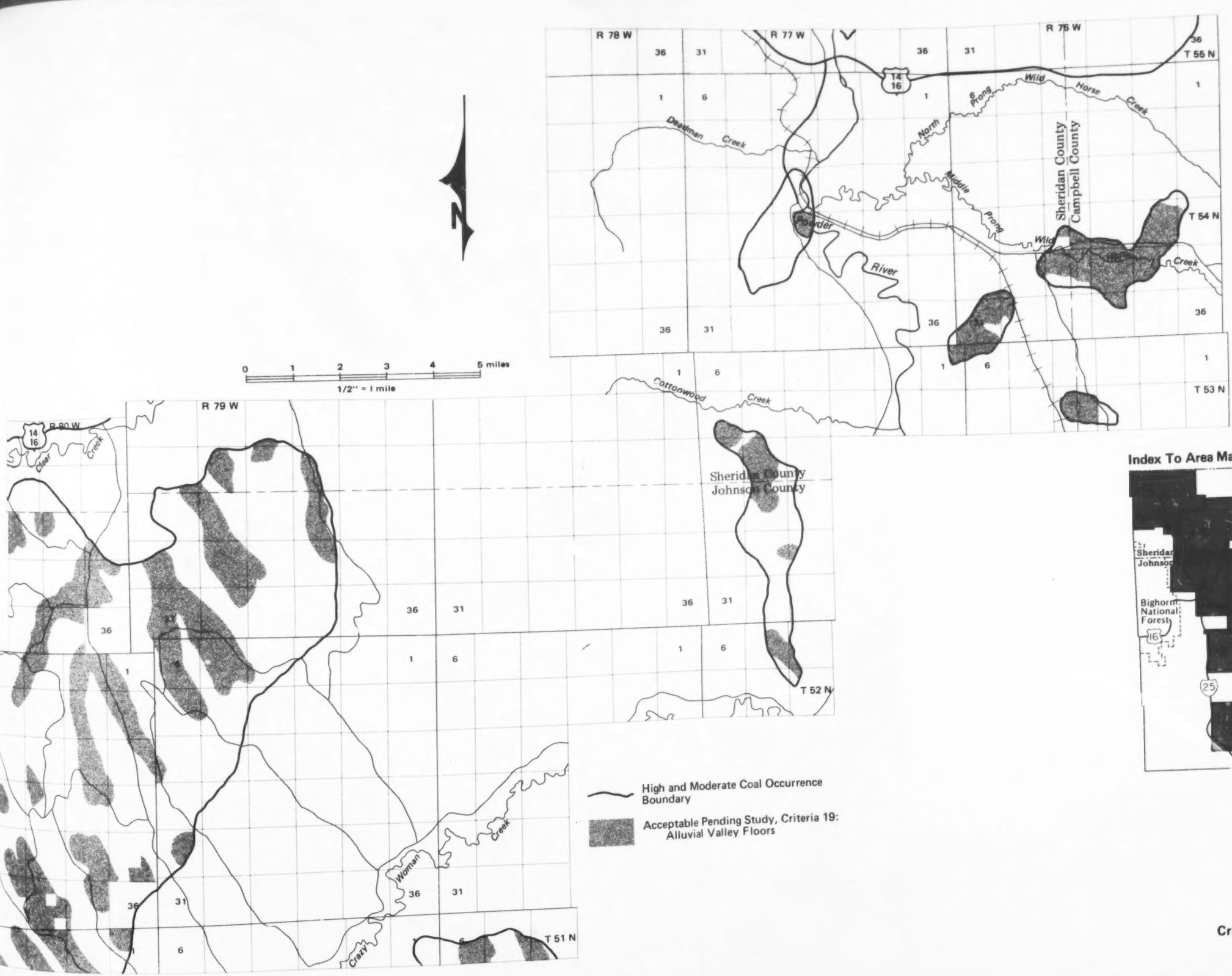

High and Moderate Coal Occurrence

Preference Right Lease Applications

Acceptable Pending Study, Criteria 19: Alluvial Valley Floors

Area Map 6C
**Criteria 16,17,18,19,20**

Sheridan County

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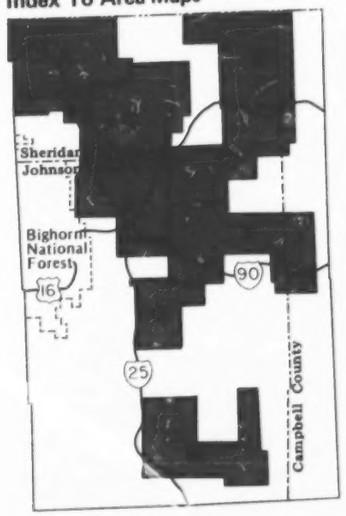
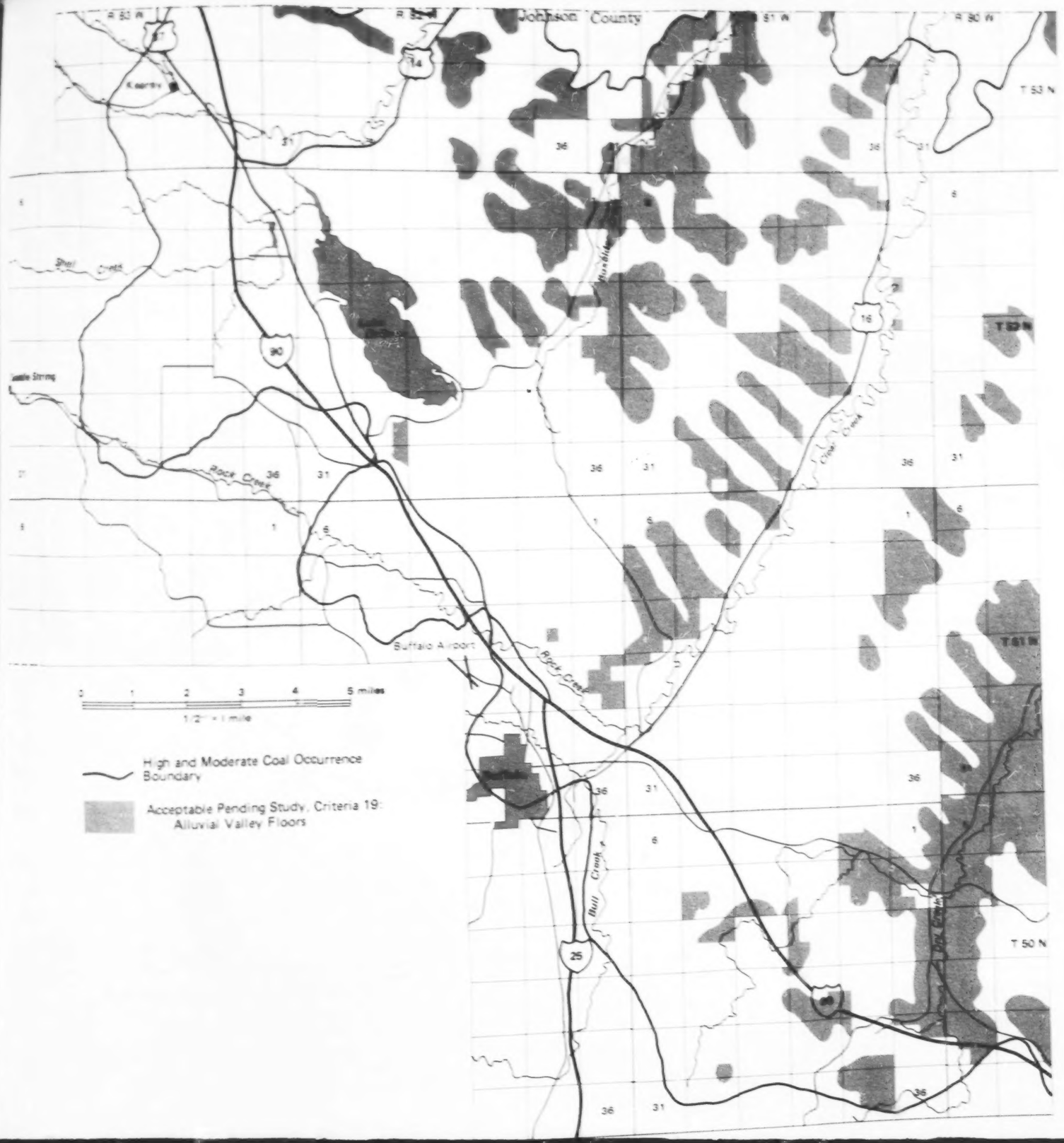



Area Map 6D
**Criteria 16,17,18,19,20**

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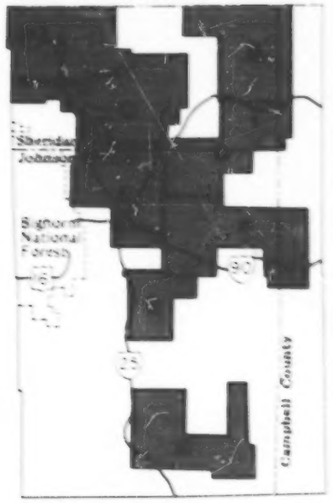
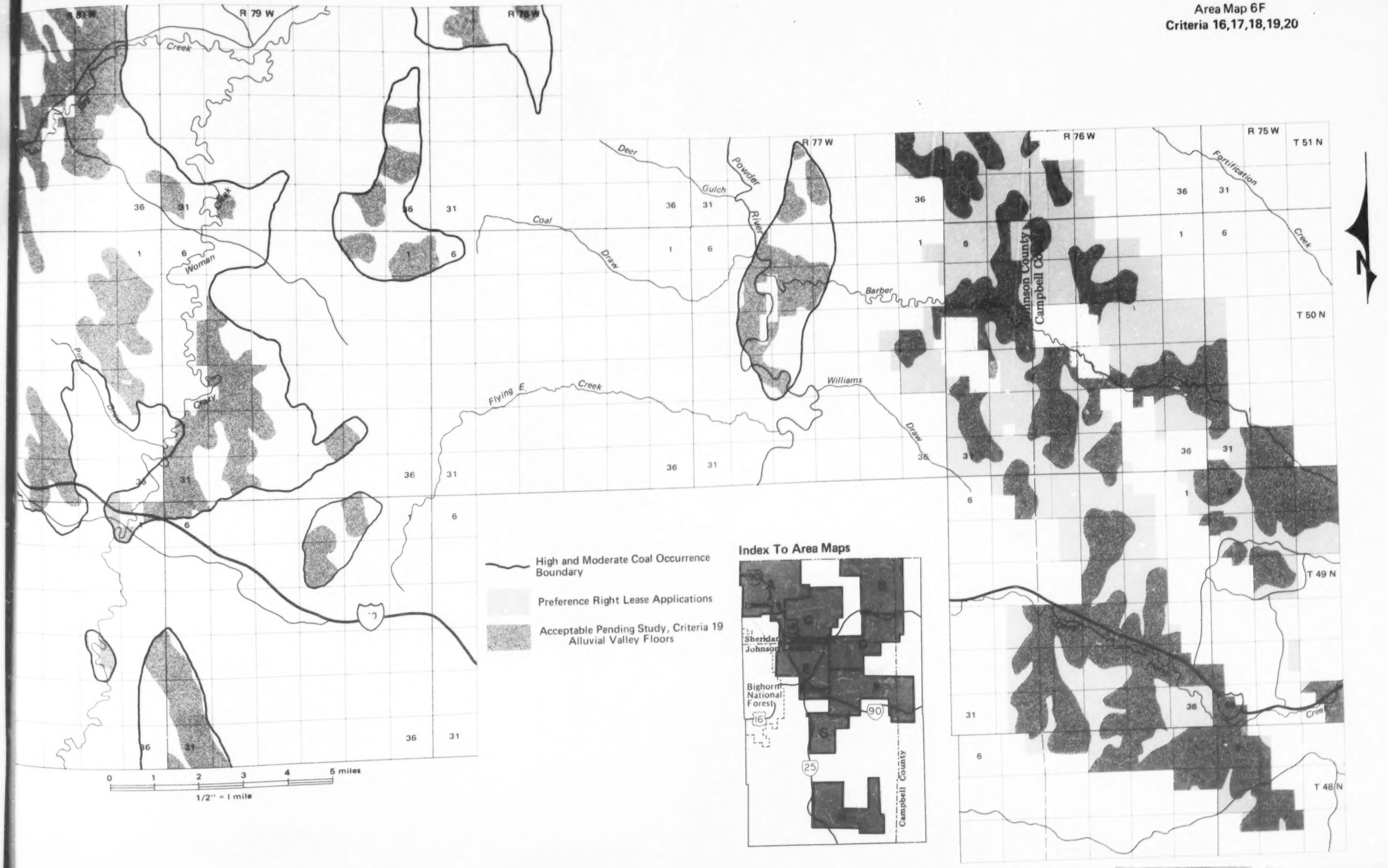



Area Map 6E
**Criteria 16,17,18,19,20**

Area Map 6F
**Criteria 16,17,18,19,20**




High and Moderate Coal Occurrence Boundary

Preference Right Lease Applications

Acceptable Pending Study, Criteria 19 Alluvial Valley Floors

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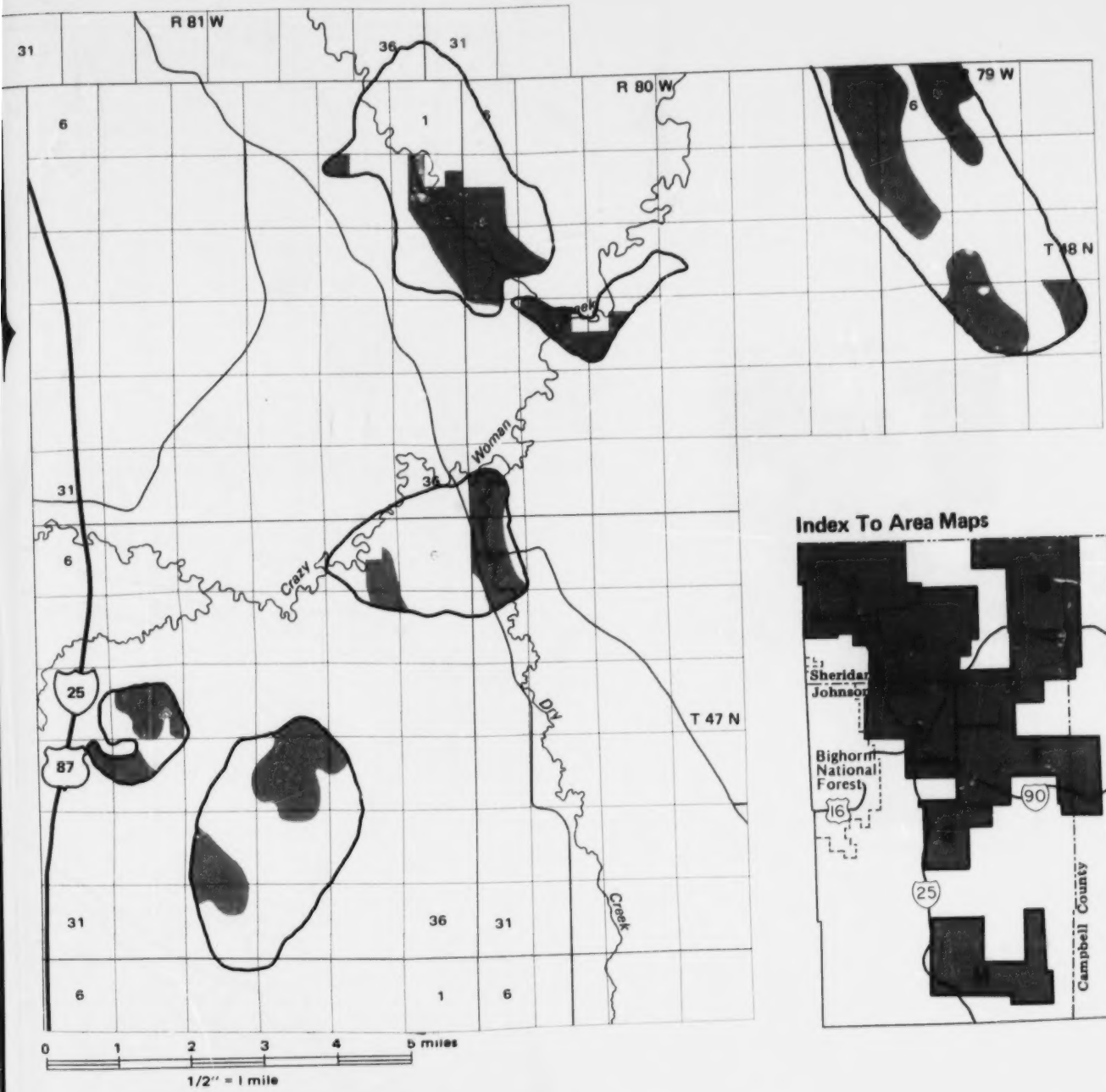


High and Moderate Coal Occurrence Boundary

Acceptable Pending Study, Criteria 19: Alluvial Valley Floors

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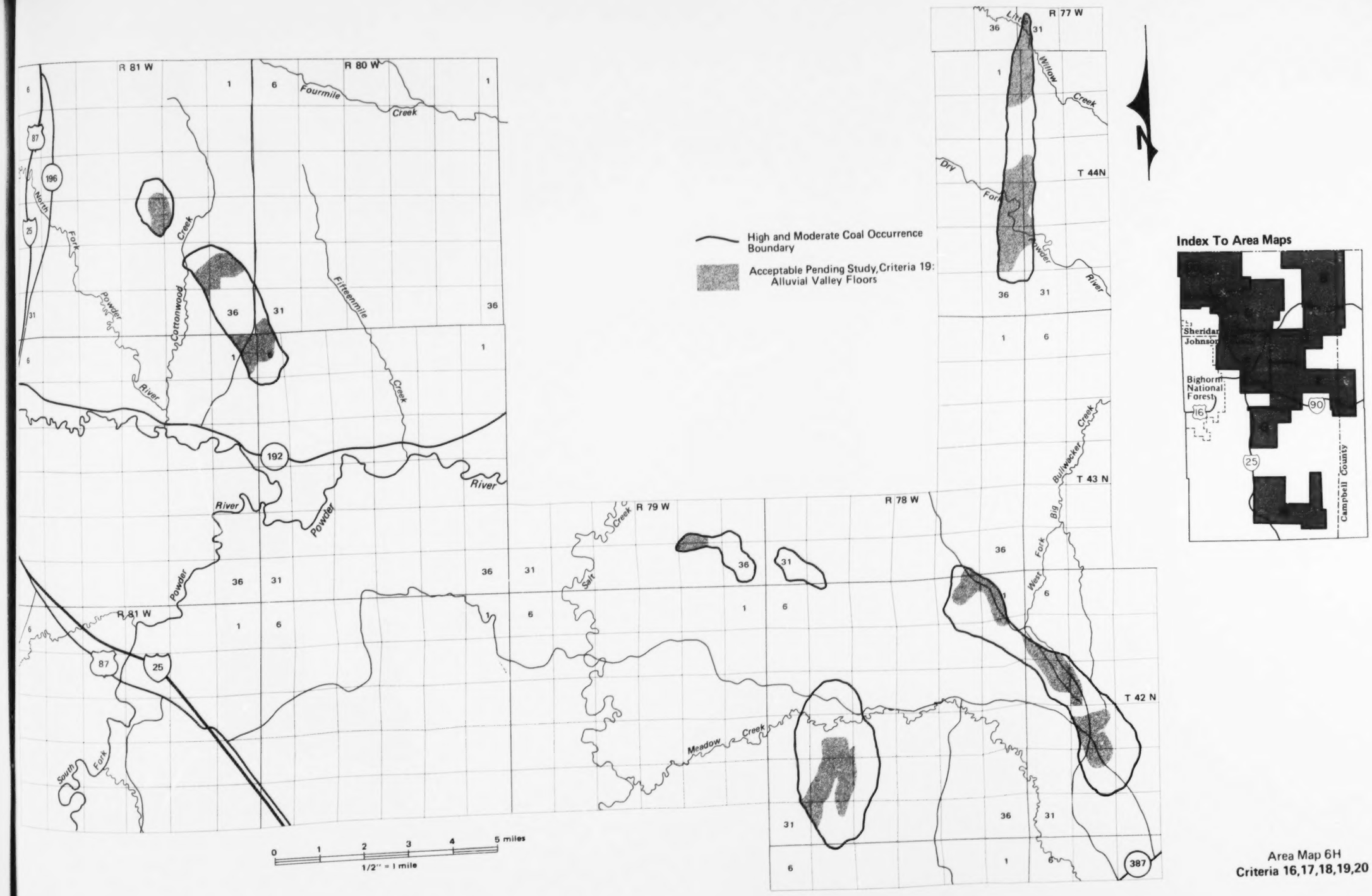
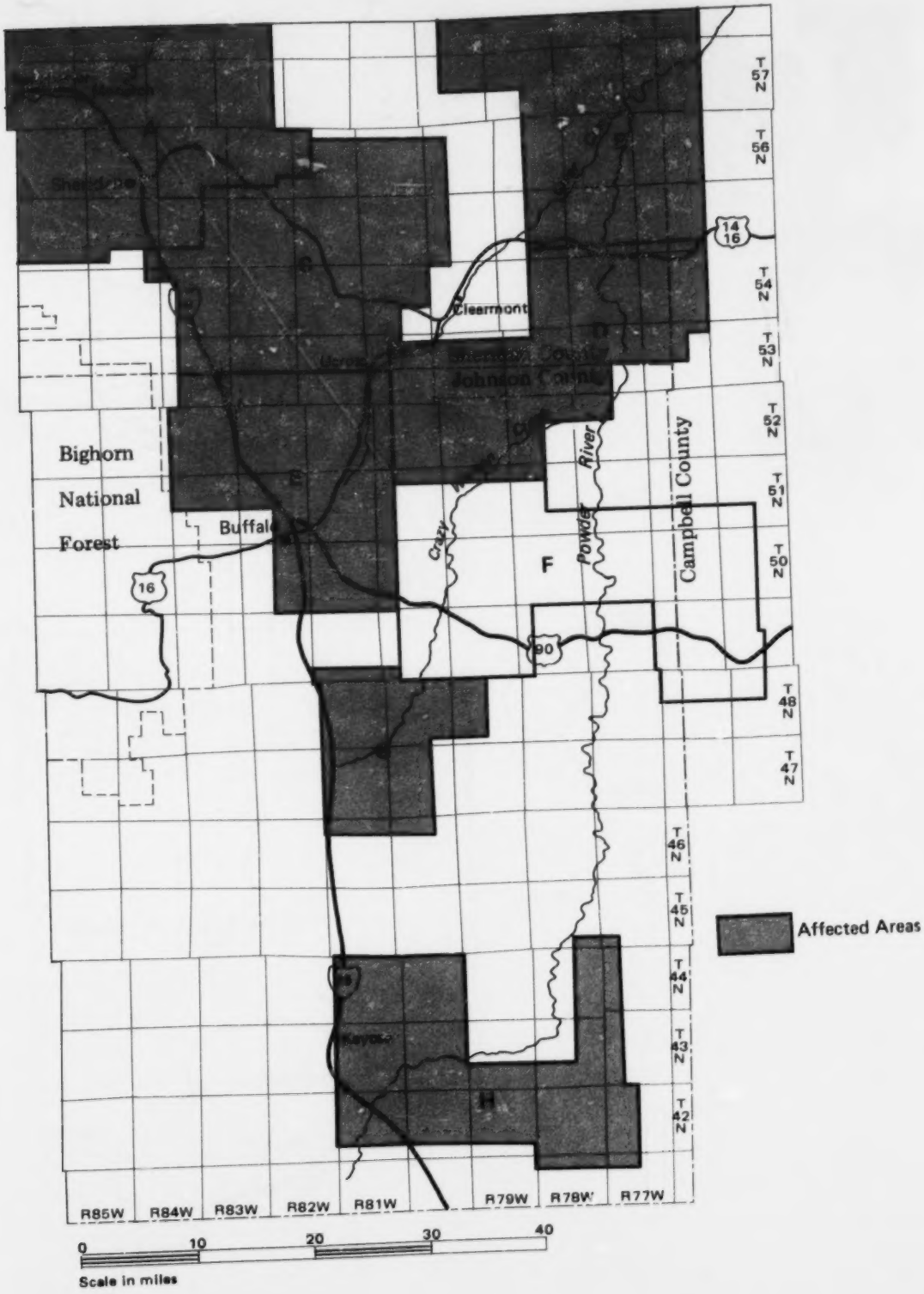
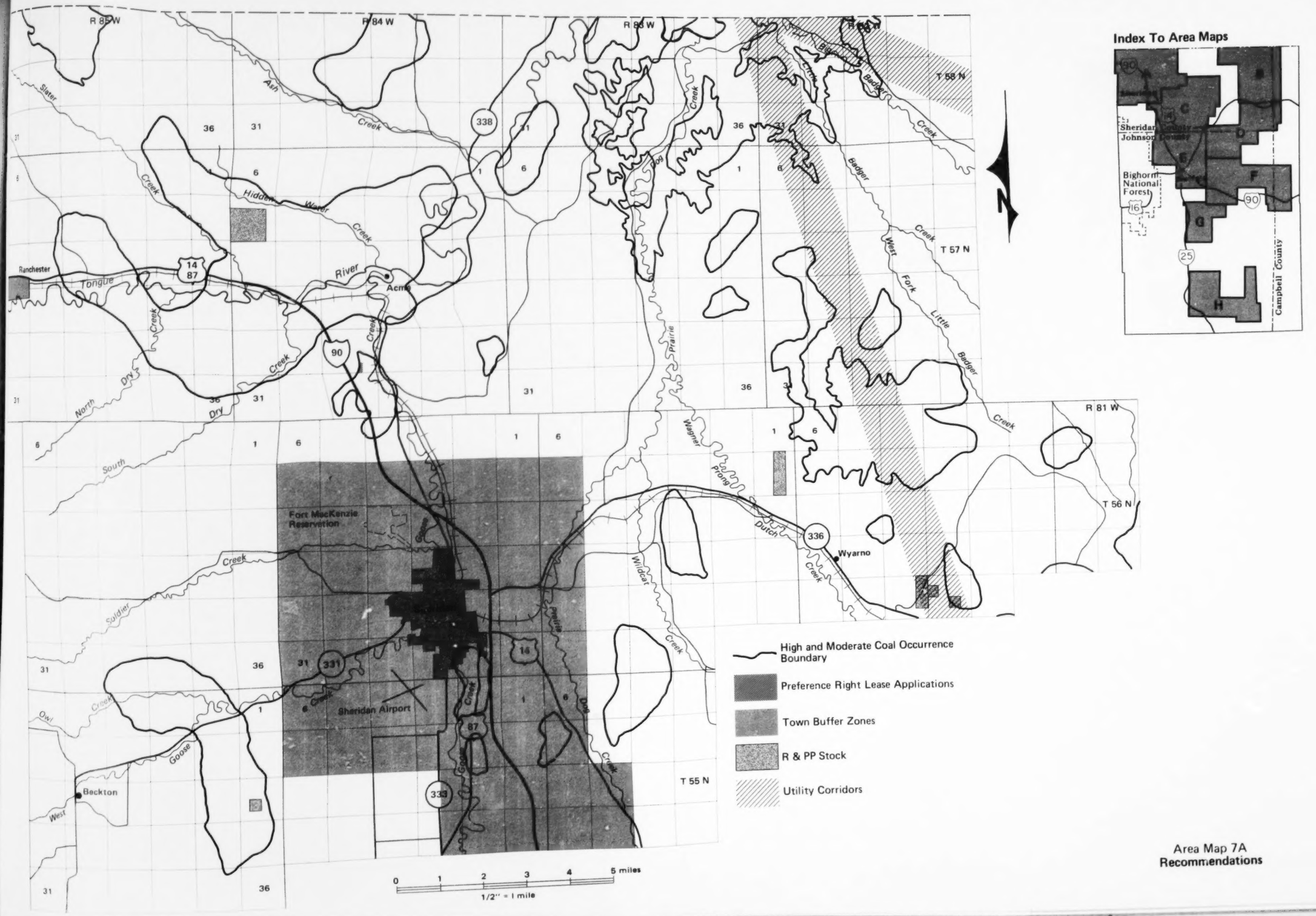
Area Map 6G
**Criteria 16,17,18,19,20**



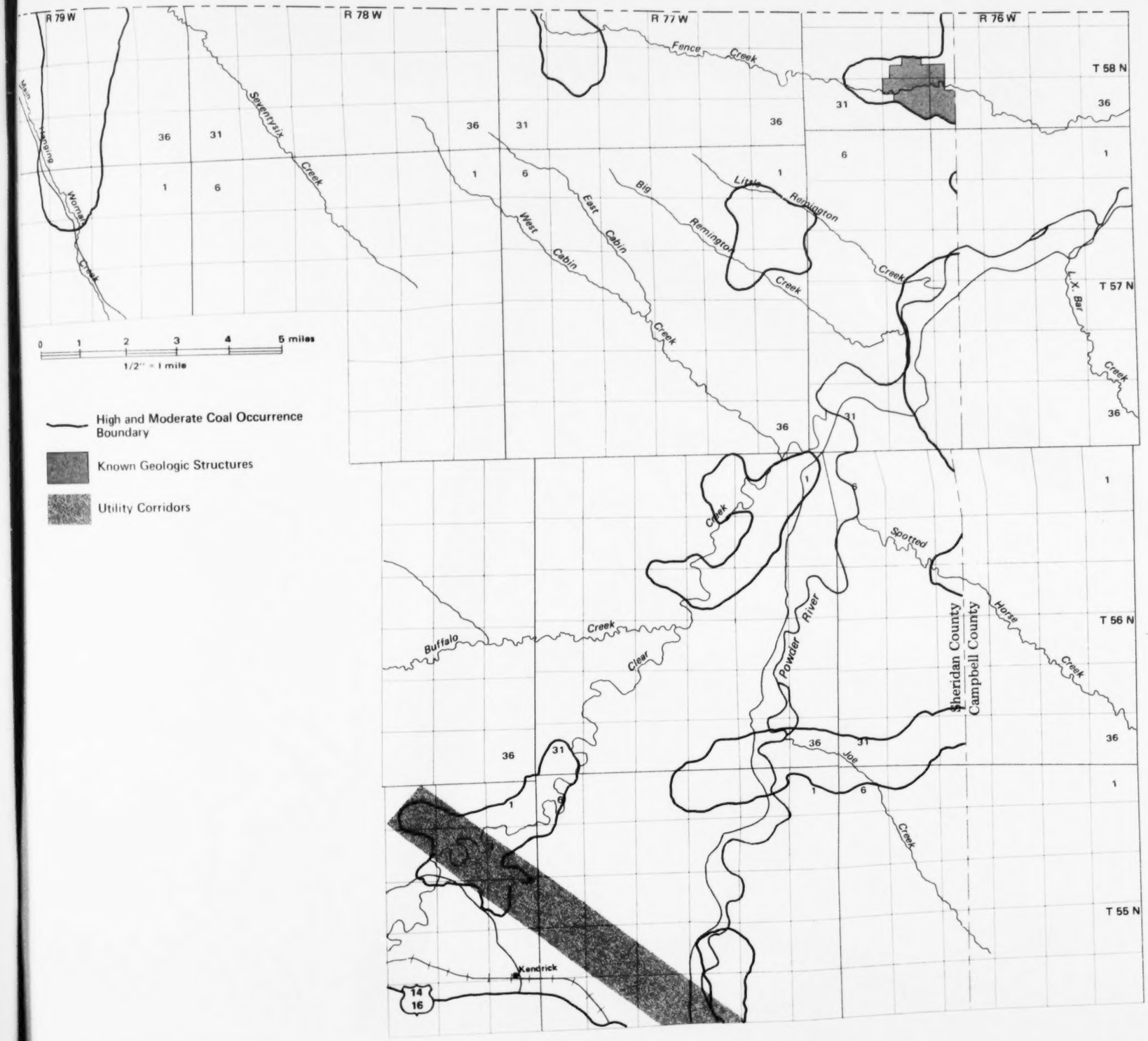

Area Map 6H
**Criteria 16,17,18,19,20**

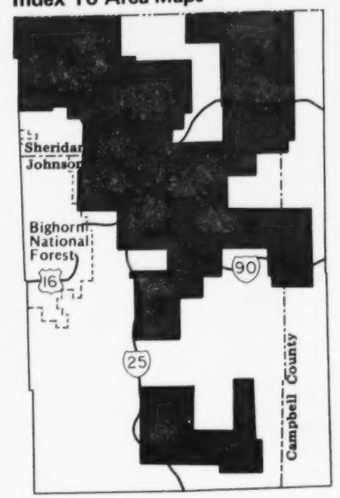



Map 7
Recommendations

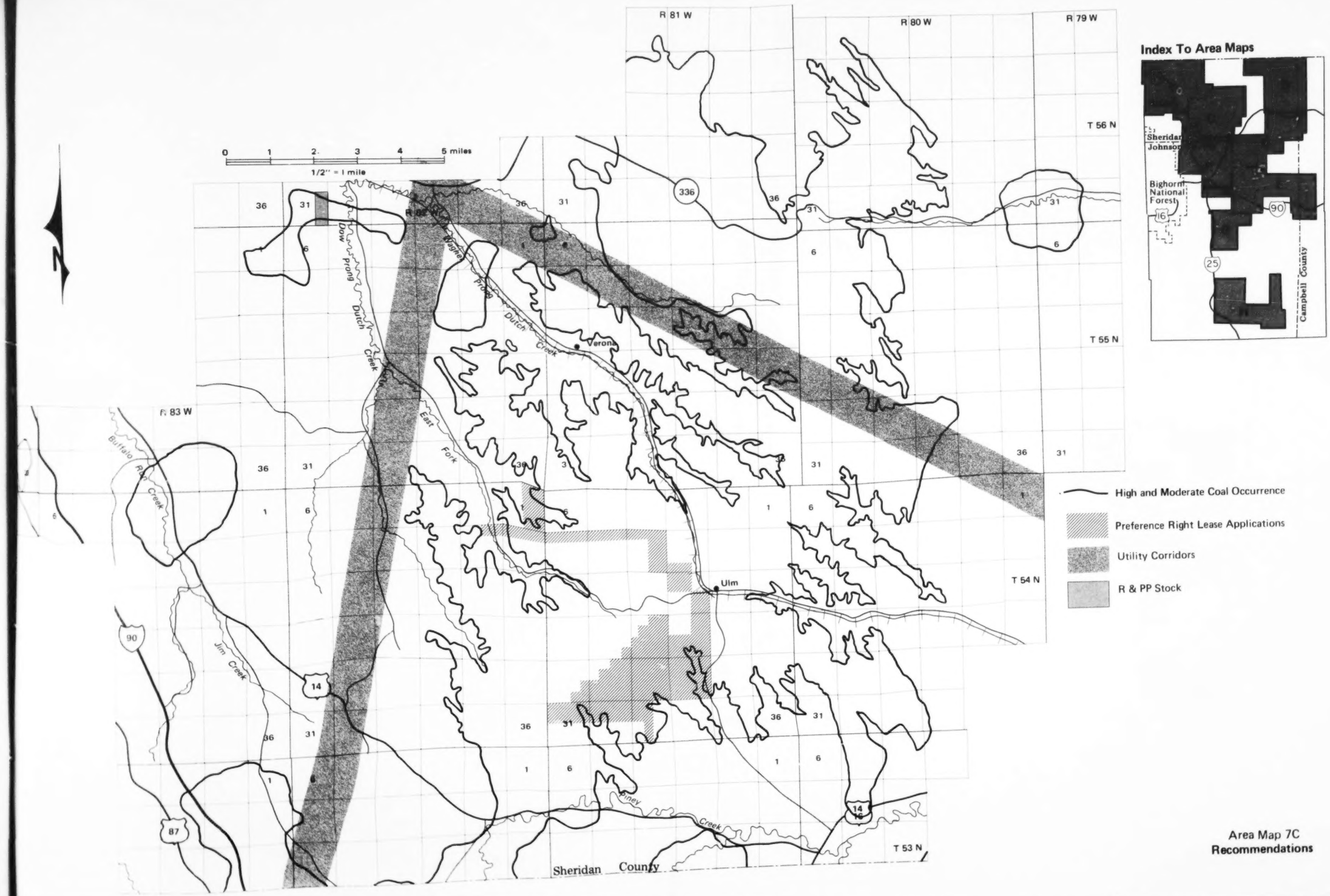



Area Map 7A
**Recommendations**




Map 7B
**Recommendations**


R 81 W
R 80 W
R 79 W
T 56 N
T 55 N
T 54 N
T 53 N
R 83 W
R 82 W
0 1 2 3 4 5 miles
1/2" = 1 mile
N
336
90
14
87
16
25
Dow Prong
Dutch Creek
Wagner Prong
East Fork
Buffalo Run Creek
Jim Creek
Piney Creek
Verona
Ulm
Sheridan County
Campbell County
Bighorn National Forest
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Preference Right Lease Applications
Utility Corridors
R & PP Stock
Area Map 7C
Recommendations

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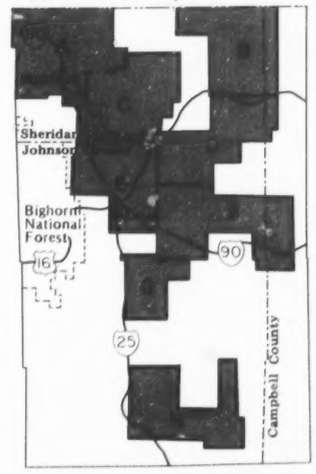
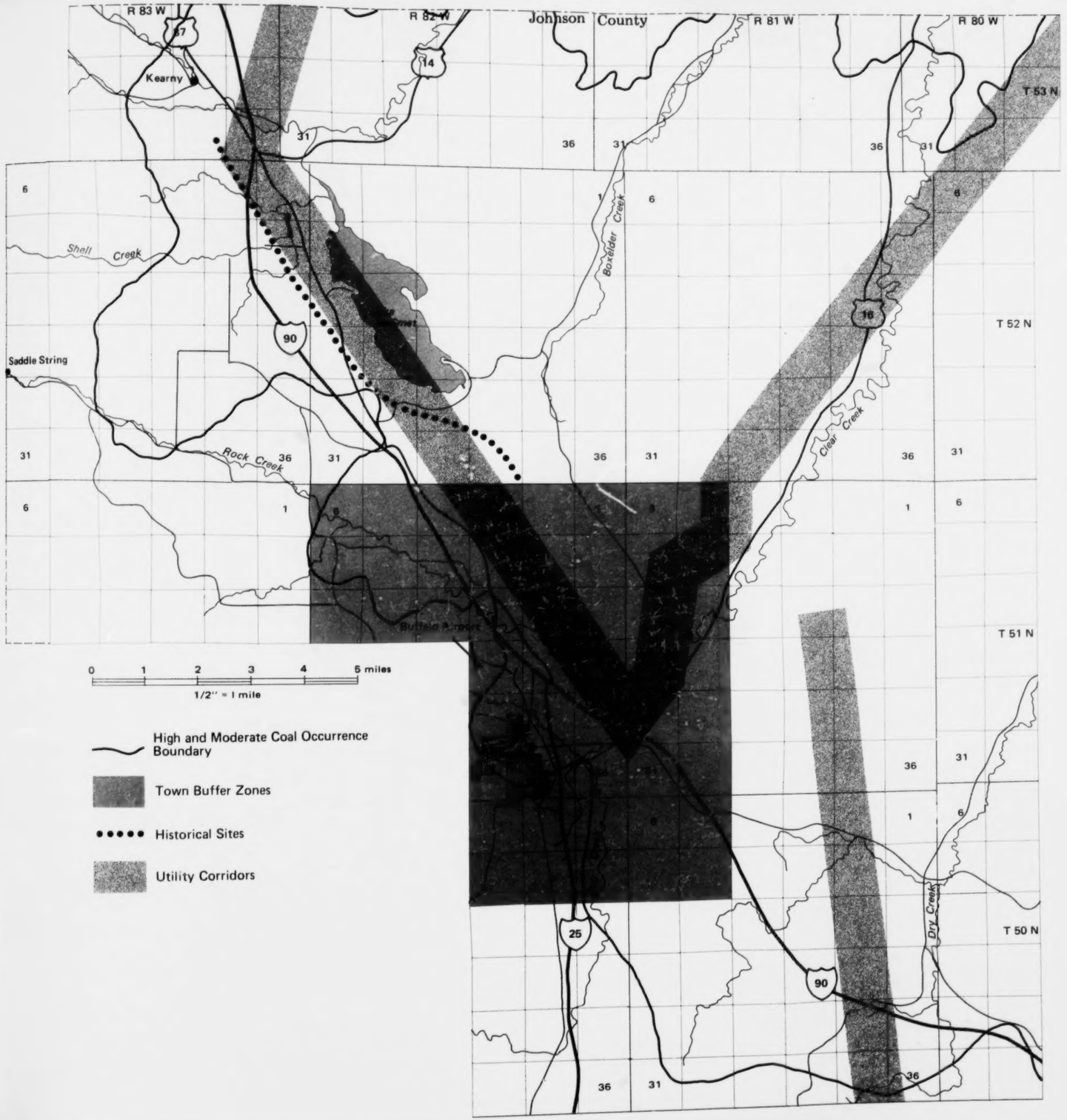



Area Map 7D
**Recommendations**

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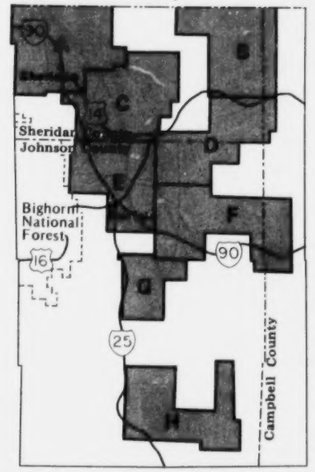
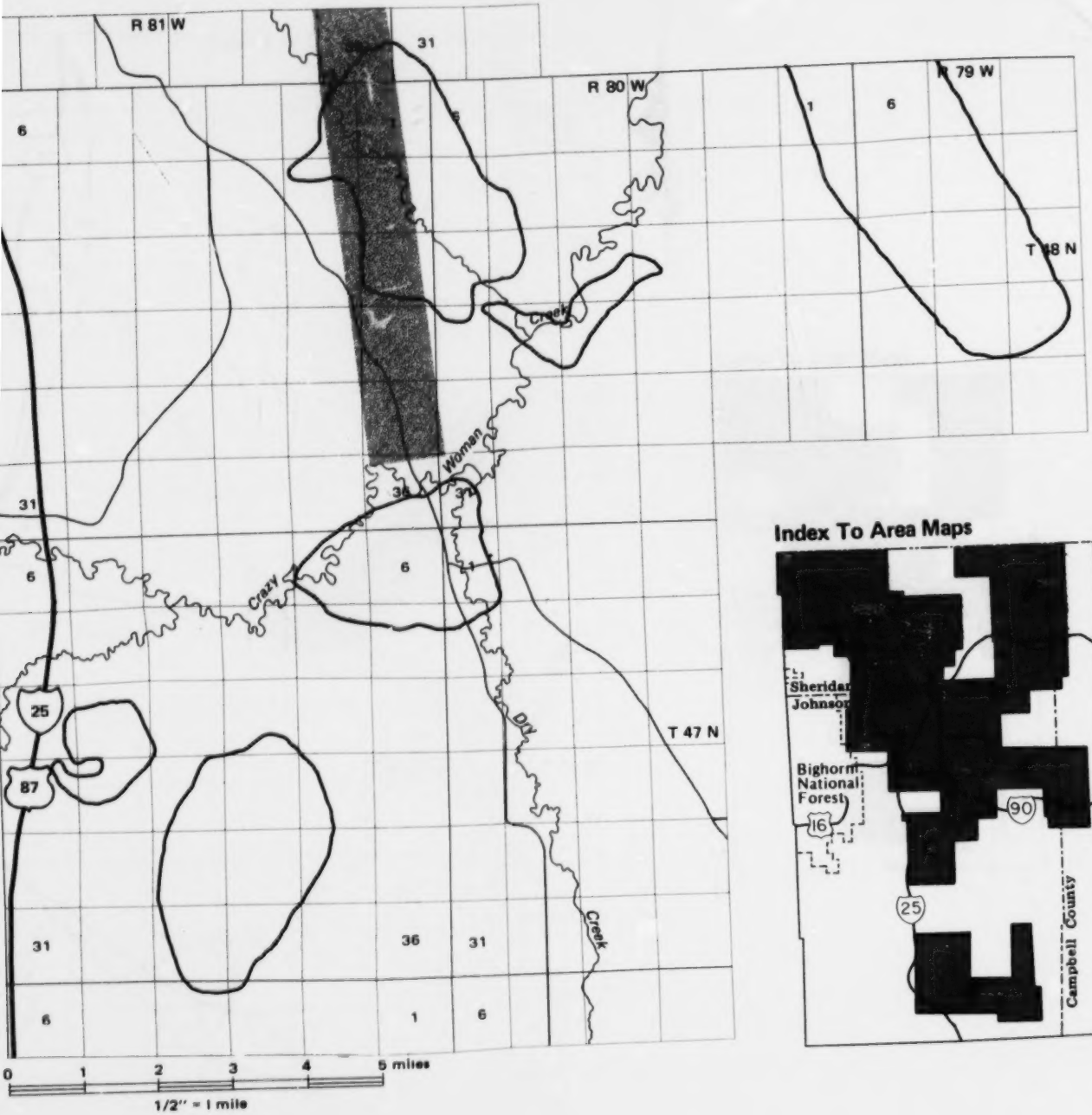



Area Map 7E
**Recommendations**

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High and Moderate Coal Occurrence Boundary

Utility Corridors

Area Map 7G
**Recommendations**

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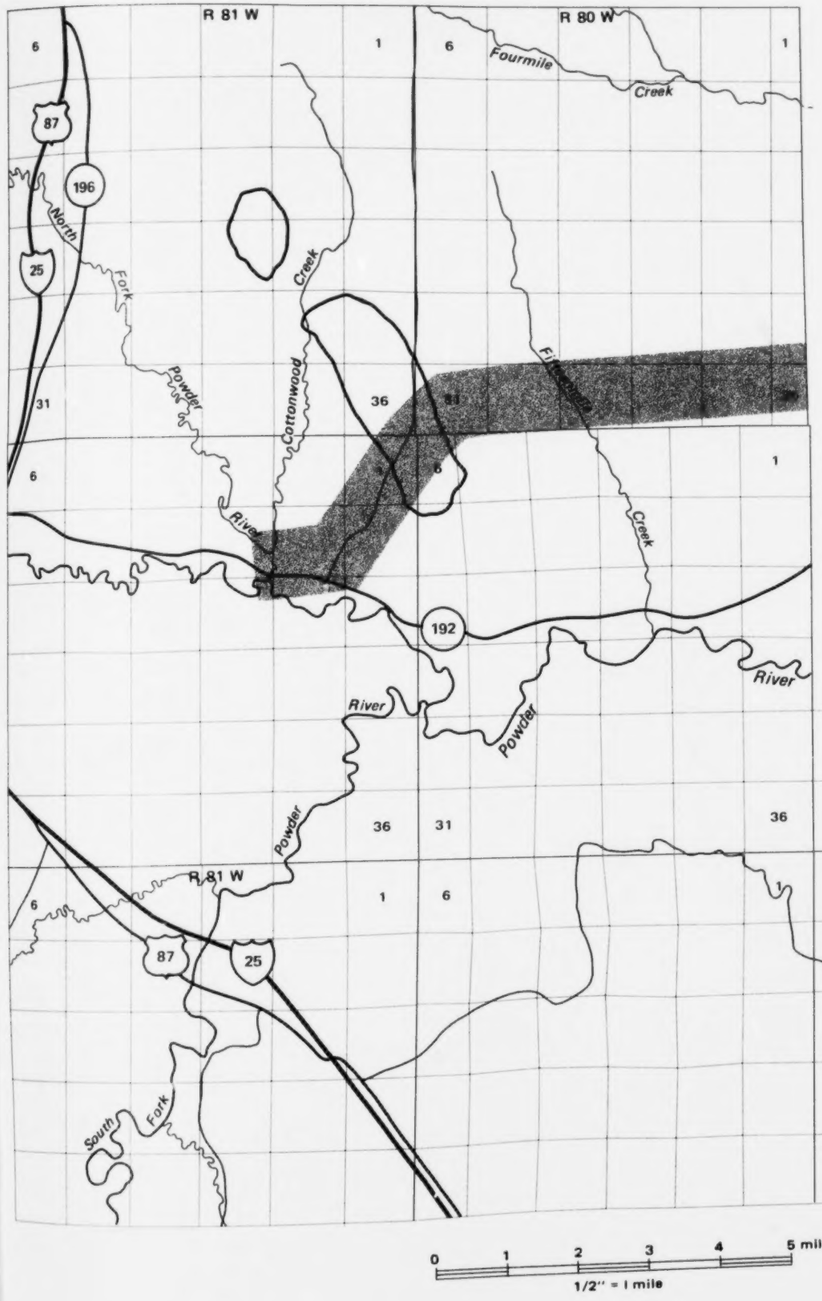
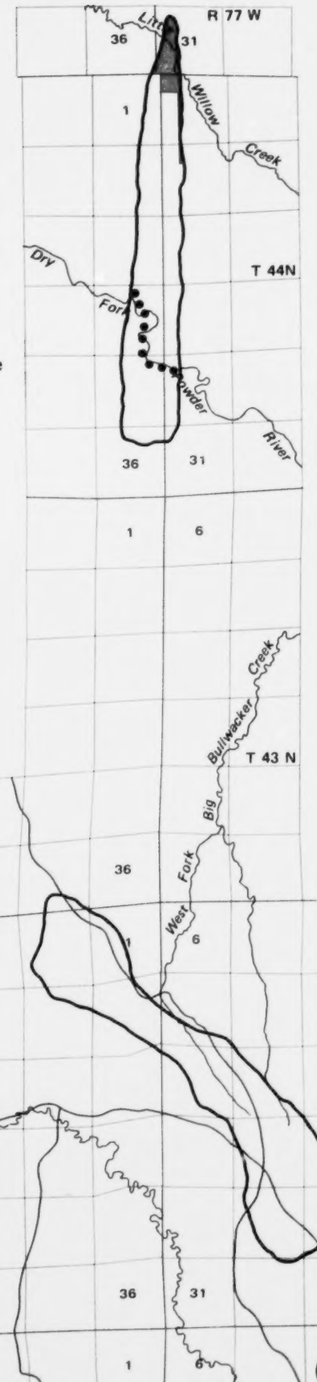


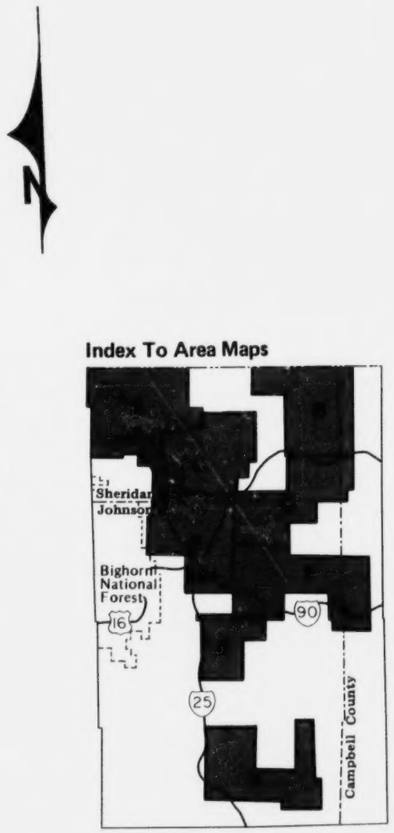

High and Moderate Coal Occurrence Boundary

Known Geologic Structures

Historical Sites

Utility Corridors




Area Map 7H
**Recommendations**

# COMMENTS

HERE ARE MY COMMENTS CONCERNING THE WESTERN POWDER RIVER MANAGEMENT FRAMEWORK PLAN (MFP) COAL AMENDMENT.

NAME _____

ORGANIZATION _____

ADDRESS _____

_____

CITY _____

STATE _____ ZIP _____

DATE _____

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